



CALIFORNIA MANAGEMENT REVIEW

Fall, 1958

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From the President of the University of California,

Clark Kerr

We welcome the *California Management Review* into the family of publications sponsored by the University of California with the expectation that it will provide a vital link in the communication network among managers and between them and research personnel, for the benefit of the managers, the research personnel, and society as a whole.

Management is a pervasive factor in the highly organized society of the twentieth century. The most crucial human factor in an industrial society may well be the business manager. But whether in an industrial, governmental or educational organization, management is the fulcrum upon which organizational forces concentrate.

The complex nature of the managerial function has generated an ever-increasing demand for knowledge which will enable managers to improve their performance and that of their organizations. Much of this knowledge is available in the experience of others and in the findings of research studies. The communication to the managers is frequently the missing component.

Research is a primary function of the University of California, as it is at most major universities. The findings of studies in almost any discipline—whether the natural sciences, behavioral sciences, humanities or the applied fields—have potential value for managers. It is necessary for someone to perform the function of separating from the research reports and presenting in usable form the information of value to managers in sources accessible to them.

One of the major objectives of the *California Management Review* is to provide a pipeline to facilitate the flow of knowledge from the research person to the manager. We hope that by sponsoring this publication we will significantly increase the availability of research findings to managers and stimulate research through feedback of problems from managers to the research units. The result should be the improvement of management and ultimately the more effective operation of our society.

To Our Readers and Contributors:

In this, the first issue of the *California Management Review*, it is fitting to comment on the major objective of the *Review* and to summarize the editorial policies by which we hope to achieve this objective.

The need for greater skill, knowledge, and leadership in meeting the pressures and problems of management in a rapidly changing world has provided the impetus for this new publication and dictated its objective. As an authoritative source of managerial information and ideas, the *Review* seeks to serve as a bridge between creative thought about management and executive action.

In pursuit of this basic objective, the Editorial Board has adopted the following policies:

1. The *Review* is to be directed towards the active manager interested in improving his performance and towards scholars, teachers, and observers interested in the general development of management.

2. Articles, reader comments, and other material presented in the *Review* must make a significant contribution to the practice or theory of management.

3. Articles appearing in the *Review* may vary in approach, length, and source.

(a) Articles differing from one another in approach and purpose are sought. The *Review* will include articles presenting:

—Results of original and important research in management by investigators in universities, business, and government.

—Basic evaluations of significant trends in the environment in which management operates.

—Descriptions and appraisals of techniques in management.

—Reflections on general issues concerning management.

(b) The length of an article should be dictated by the material presented. Each article should be limited to the minimum length necessary to express ideas clearly and concisely.

(c) Because management can benefit significantly from the contributions of those in the other social sciences, in the humanities, and in the physical sciences, as well as from the contributions of those whose primary interest is management, articles from diverse sources are encouraged.

We wish to take this opportunity to solicit manuscripts, comments, and criticisms from you, the reader. The success of this venture depends upon the active support of each of you not only as a reader, but as a contributor of suggestions and articles. All manuscripts should be submitted in duplicate, double-spaced typewritten. Manuscripts, comments, and criticisms may be addressed to any of the Editors at the addresses shown below.

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Elementary Conditions of Business Morals

The confusion surrounding the concept of business morality and the general failure to recognize how much of business behavior is motivated by moral considerations have prompted our author to describe classes of business morality, the kinds of conflicts they involve, and ways of resolving these conflicts.

This subject has been selected as consonant with the purpose of the founder of the Barbara Weinstock Endowment.¹ Although "Business Morals" is somewhat broader than "The Morals of Trade," the phrase he used includes the latter. Please note also that I am not talking about "Principles of Business Morals" but "Elementary Conditions" and that the emphasis is empirical rather than theoretical or philosophical. What follows is not an essay in sociology, social psychology, or the philosophy of ethics, nor is it a theological discussion of virtue and sin in or of business organizations. What follows is the result of reflection upon long personal experience in a wide variety of organizations—business, governmental, and philanthropic—with extensive opportunity for observation, although of course I have benefited from the views of many others expressed

in conferences and in books. I should therefore like the privilege of being quite informal and at times quite personal.

It may help to understand the significance of our subject and my purpose if I summarize briefly my experience in reaching my present views of it. Apropos is a letter I received recently from a student in a technical school in Sydney, Australia. Evidently he had been required to read at least one of my books and had been assigned as a topic for a paper "Barnard's Biography." He said he could find nothing about me in Sydney except in *Who's Who*, which told him little. Therefore, would I kindly write an autobiographical sketch that would tell him "how you got that way." I shall now state "how I got this way."

In 1937 I delivered eight lectures at the Lowell Institute in Boston under the title "The Functions of the Executive." On the initiative of the Harvard University Press I agreed to

¹ This paper was first given as a Barbara Weinstock Lecture on Morals of Trade at the University of California, Berkeley.

MR. BARNARD, whose distinguished career as businessman, foundation executive, and public servant is well known, is also the author of two classics on management, *The Functions of the Executive* and *Organization and Management*.

convert these lectures, which were orally extemporaneous, into a book. This was published in the fall of 1938 under the same title. Perhaps a more nearly appropriate title would have been "The Sociology of Formal Organizations," but such an effort was far from my mind, and such a title would have seemed bombastic to me and to others as well. I was merely trying to describe or state the nature of the essential tool or apparatus with, through, or by which executives have to work, as an indispensable introduction to the discussion of the practice of management and the problems of leadership.

From this study emerged two leading ideas pertinent to this lecture, although I was not aware of this until after publication. The first is that every formal organization is a social system, something much broader than a bare economic or political instrumentality or the fictional legal entity implicit in corporation law. As social systems, organizations give expression to or reflect mores, patterns of culture, implicit assumptions as to the world, deep convictions, unconscious beliefs that make them largely autonomous moral institutions on which instrumental political, economic, religious, or other functions are superimposed or from which they evolve.

The second idea is that to a large extent management decisions are concerned with moral issues. Undoubtedly long before recognizing this I had had numerous experiences exemplifying it; but I had never distinguished between decisions of a technical or technological character, subject to factual and reasoned conclusions, and those involving a less tangible sensing of values. But this idea of moralities in organizations was one of issues arising within organizations, with little or no reference to prevalent moral conceptions in the great societies within which these formal organizations exist, nor did it take into account the obligations of incorporated organizations as legal entities.

Recognition of the fact that coöperation among men, through formal organizations of their activities, creates moralities was to me, in 1938, a startling conception. One of its implications was that modern Western civilization is morally complex, far beyond other civilizations. This view seemed to me to be confirmed by the marvelous orderliness and stability of our society. Another implication was that conflicts and misunderstanding of moral positions, as contrasted with conflicts of economic or power interests, must have greatly increased and that frustrations, confusions, and uncertainties with respect to right and wrong surely were magnified. However, all this increased my perplexity concerning the reasons why Judeo-Christian ethics, the Ten Commandments, the Sermon on the Mount, the Golden Rule, seemed to have so little application or relevance to the moral problems of the world of affairs. I did not know then that others recognized this, as I subsequently discovered. For example, Professor Frank H. Knight in his essay "Conflict of Values: Freedom and Justice" says:

All will agree that literal individual liberty must be limited by law, by enforced law. We need not here debate against anarchism; nor, we should hope, against the view (though held for many centuries by official Christianity) that laws and governments "would be" superfluous if men were not sinful. A pure personal-relations ethic, of whatever form, can hardly furnish rules for such activities as international trade, or any dealings with people too numerous and remote to have reality for us as individuals, with the unborn, or for the future of cultural values; in fact, any rules for organizing work or play.²

And Mrs. Alfred North Whitehead is reported to have remarked: "They may finally succumb and learn to like the poison after they have been sufficiently tainted..."

"On the credit side," said Whitehead, "I notice that a large part of what is written for the serious columns of your newspaper is to set before the readers their responsibility for maintaining the social system. The aspects of this are various, but that in the end is what it all comes to: the readers are being reminded that

² In *Goals of Economic Life*, ed. A. Dudley Ward (New York: Harper & Brothers, 1953), pp. 203-230.

the preservation of a social system depends on them. Now responsibility for a social system is the groundwork of civilization. Without a society in which life and property are to some extent secure, existence can continue only at the lowest levels—you cannot have a good life for those you love, nor can you devote your energies to activity on the higher level. Consequently, a sense of responsibility for the continuance of a social system is basic to any morality. Now this form of responsibility is almost entirely absent from Christianity. Jesus hardly mentions it, except for one or two remarks."

"And one of these," said Mrs. Whitehead, "'Render unto Caesar,' was evasive."

"There were historical reasons for this lack, I grant you," he continued. "The Hebrews had no independent state to govern, and a man cannot be blamed for failing to consider what there was in his period no occasion for considering. He said what an able thinker might be expected to say. His historical situation did not elicit a code of ethics concerned with responsibility for a social system; but the absence of such responsibility has been a characteristic of the Jews for centuries. That is one reason for their unpopularity. You may say that the way they have been treated in many of the countries of their sojourn has not permitted such participation, and I quite agree. But that absence has involved Christianity in an almost perpetual self-contradiction. It held that the externals of life are not worth caring about and at the same time insisted on types of moral conduct which cannot be observed—without perishing—unless the externals of life are sufficiently well organized. A society run on strictly Christian principles could not survive at all."³

The approach of war and then war duties prevented much reflection upon these matters, though experience during this period seemed to confirm my previous conclusions about the essentially moral character of behavior in formal organizations.

I began to get a little more insight into this subject in 1944 when I attended a conference of what was then called "A Commission on a Just and Durable Peace," an activity of the Federal Council of Churches of Christ in the United States of America. It was held at Cleveland, Ohio, under the chairmanship of Mr. John Foster Dulles. About half the delegates were clergymen and most of the remainder were church people. It was concerned primarily with international relations; but in the various sectional meetings I observed that when-

ever the discussion related to public or business affairs, the assumptions as to the nature of such affairs seemed to me quite unrealistic. Whenever an attempt was made to apply a moral precept, it seemed to me substantially irrelevant; and what seemed to me the essential moral dilemmas of business and public affairs were evidently not contemplated at all.

Why? Because, I thought, the facts of business life were not available. This seemed to be to some extent a matter of communication and of semantics. The theologians were talking in terms of a nomadic and simple agricultural life—of sheep and lambs, of shepherds—in an industrial age in which the majority had no experience of rural life. But the fault was not so much that of the theologians and the clergy. The doctrine of the economists concerned with highly abstract aggregates of behavior, with its highly artificial assumptions of the maximizations of profits as the principle of economic behavior, was not merely misleading but abortive; and they had neglected the study of business as such, of the entrepreneurial functions and its history. And the men of affairs, though some were highly loquacious, were singularly inarticulate except in the technical language of their heterogeneous shops. There are reasons for this inarticulateness to which I shall refer later. Suffice it to say that in my estimation empirical studies of behavior in business and affairs, of organizations, and of the moralities they create, were needed, stated in language facilitating communication with those whose concern is with general problems of ethics.

However laborious the path by which I reached this view, it was not new. For a number of years the Federal Council of Churches had maintained a Department of the Church and Economic Life which had shown concern for the empirical facts, though its approach was primarily from the religious side; and it had little money for the expensive research required. Mr. Paul G. Hoffman, one of my prede-

³ *Dialogues of Alfred North Whitehead. As Recorded by Lucien Price* (Boston: Little, Brown & Co., 1954), pp. 261-262.

cessors on this platform, then Chairman of the Committee for Economic Development, was much interested in these efforts which I suppose were somewhat analogous to those of his committee. He offered to attempt to raise money for the research requirements if I would do likewise; but my suggestion was that at least initially funds should be sought from the most neutral sources, that is, the foundations, since many controversial questions would be involved, the treatment of which should not be biased by the source of funds, whether from private individuals, corporations, or labor unions. Subsequently the Federal Council made application to the Rockefeller Foundation for support. More than \$200,000 in two appropriations was made available, resulting in the production of a series of books published by Harper & Brothers. In them there is not much reflection of empirical research, but an illuminating presentation of the approaches and considerations involved in understanding the problems of business morality.

My purpose in this introduction has been to indicate the nature of the problem of business morality, the confusion that exists about it, its importance, and something of what has been attempted recently to secure enlightenment in a field that is obscure. What I wish to do in the following discussion is to sketch some of the elementary conditions of behavior in business relevant to moral questions.

DEFINITION OF MORALITY

The ideas that there may be numerous systems or codes or attitudes of morality and that coöperation in formal organizations creates such systems or codes or attitudes are not common. And much behavior that is determined by moral attitudes is not recognized as such. I therefore should attempt some approximate definition of morals, morality, and associated concepts. I mean by moral behavior that which is governed by beliefs or feelings of what is right or wrong regardless of self-interest or

immediate consequences of a decision to do or not to do specific things under particular conditions. To some extent questions of right or wrong in business are strictly personal—honesty, abstinence from violation of the rights of others, conformance to rules of decency, Golden Rule in regard to the interests of others, charity—the questions with which traditional religious or philosophical ethics are concerned. Most modern concrete business behavior, however, is not of direct personal interest. Rather, business morality relates to “good of the organization,” “interests of society,” prescriptions of law. The fact that personal interests are not involved leads many to fail to recognize that adherence to organizational interest, to correct procedure, as in the courts—for example, in application of the first ten amendments—becomes not technical, but moral in the sense just stated. I shall set forth some of these moralities in the next section of this paper entitled “Varieties of Moralities.”

The propensity toward ideal behavior stated without regard to ethical foundations in religious doctrine or to philosophical precepts is so deceptively simple that it raises the possibility that to emphasize the moral character of so large a part of modern business behavior is to paint the lily of what after all may be only “practical” behavior. Why, to the layman, does business practice so often seem either immoral or amoral? In part the remainder of this lecture is concerned with this question; but it may be useful to give here some brief general comments suggesting why moral business behavior is not always recognized as being moral.

First, a perfectionist standard is not a valid criterion of moral behavior. Moral ideals, when expressed in general terms rather than in action in concrete situations, are necessarily abstract, and attainment may fall far short of the abstract ideal. This does not mean that failure is evidence of immorality, but that moral achievement is in part dependent on concrete conditions which vary widely. This is perhaps

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only to say that the degree of "temptation" to deviance must be taken into account. The test is not whether moral error is committed, but whether when committed it is so recognized with accompanying apology, regret, or remorse. However, the situation is one where the professor of a moral standard is vulnerable to criticism, extremely difficult to meet where technical considerations are involved. It explains why so often I have heard men say that they were operating frankly on the basis of self-interest or for economic or even legal reasons when I knew this was not the case.

Second, the more moral organized behavior becomes the more frequently will conflicts arise, not only between moral principles, but between such principles and those of technical (accounting, financial, legal, organizational) and technological character. This will be further discussed later. Suffice it to say here that the situation is one easily interpreted as one of incessant conflict to defeat moral principles, and to obscure their constructive influence.

Finally, and perhaps more important, is the fact that explicitly moral terms are not much admitted in business or public affairs. The terms most used are "loyalty," "responsibility," "duties," and "obligations." Though such terms are ambiguous (*e.g.*, "responsibility" is often used to mean "legal liability" where no moral question may be involved) they are in fact loaded with moral implications. These being the terms currently used, I shall from here on largely use them instead of "moral" or "morality" as being more convenient and as lending themselves perhaps to more easily intelligible discussion.

VARIETIES OF MORALITIES IN BUSINESS

To give more meaning and substance to general remarks already made and to suggest what is meant by "elementary conditions" of business morality, I shall now present several classes of responsibility readily distinguishable

in any large organization and only somewhat less easily recognized in other organizations, even though small. I am not attempting here to be comprehensive or to present a selection based on a thoroughgoing taxonomic study of the moralities of business. Indeed, I think that would be impossible at the present time. Much observation and analysis will be required before this can be done. There is little explicit knowledge of this subject. Such understanding of it as there is, is a matter of intuitive familiarity with specific organizations, specific operations, and specific conditions. Thus the moral climate in different organizations varies greatly, so that a thoroughly competent executive, administrator, or employee transferring from one to another will require as much time "to learn the ropes" of the moral climate as of the technical situation—and may never "learn the ropes;" that is, the loyalties and responsibilities of a transportation organization, of a publicly regulated electric power organization, of one manufacturing shoes and one manufacturing dangerous chemicals, of a distributor of automobiles and a distributor of nylon stockings, are radically different.

In the discussion that follows I have arranged the topics roughly from the general and simple to the more specific and complex. First I shall discuss personal responsibility, then representative responsibility, then personnel responsibility, then corporate responsibility, then organizational responsibility, followed in order by economic, technical and technological, and legal responsibility.

Personal Responsibility

A necessary, but by no means a sufficient, foundation of business morals is the character of individuals as such. The basis of character may be the inculcation of the ethics arising from religious or philosophical doctrines and the mores of the society in which the individual develops. The requisite character includes: avoidance of criminal acts, gross and public

immoralities and in particular stealing and lying; a willingness to recognize the interests of others to the extent of ordinary courtesy; and, finally, a willingness to discharge commitments, that is, to perform duties accepted, to honor promises.

Representative or Official Responsibility

One of the important, if not the dominant characteristic of modern Western society, as contrasted with ancient, or with Western societies of one hundred or two hundred years ago, is the extent to which concrete behavior of individuals has become representative rather than personal. By "representative" is here meant "on behalf of other," that is, not by the actor personally, but "in accordance with the aims or goals or by the methods determined by others." From the point of view of this lecture the most significant aspect of this radical change of conditions is the wide gap between the ethics of personal behavior and those of representative behavior. This seems to be well recognized only with respect to the decisions of trustees and of directors of corporations, and of other agents either of individuals or of firms or of corporations. In these technical functions it is well understood that a trustee may not do things which an individual may do, and must do things which an individual is not required to do. These are matters governed by deeds of trust, wills, statutes and court law, and the law of agency. The limits so fixed usually leave wide latitude for the exercise of judgment, but even so that judgment is to be divorced from personal interest entirely.

The field of representation or official behavior covered by legal prescriptions is only a small part of the total of the behavior on behalf of others. Every act of a trustee, director, officer, or employee is officially representative action, not personal, and the ethics of personal behavior are not identical, except coincidentally, with the ethics of representative behavior. This seems to be recognized generally only with re-

spect to a few kinds of action. Morally and legally it is not permissible for one to kill another (except in self-defense) yet the policeman, the soldier, and the executioner may and sometimes must kill in the discharge of duties, usually without any implication of immorality. Indeed, failure or refusal to do so would often be regarded as immoral. On the other hand, so far as I know, no one may legally steal on orders, except perhaps in foraging for military purposes. Yet there are circumstances where it would be immoral, from the standpoint of responsible representative behavior, not to do things immoral and even illegal from a personal point of view.

The representative character of organized behavior is the basic condition of the numerous special moralities. It affects not only such behavior directly, but also strictly personal behavior. For example, the housewife purchasing from a chain store is affected by the impersonal morality of the store, and often there is a conflict not so much of interest as of moralities involved.

Personnel Loyalties

Representative behavior is the ethical ground upon which is erected a sometimes elaborate structure of moralities in organized coöperation. Perhaps the most pervasive and important of these moral structures is that of personnel loyalties. Superficially these appear as personal loyalties, but they are not, and it is this fact which gives them their special moral character.

In formally organized activities the principal personnel relationships are those between superiors and subordinates and between those of coördinate status (fellow workmen). This relationship involves loyalties to individuals *acting in their official capacities*. Loyalty in this context means recognition of the responsibilities of others and the desire to support others in the discharge of those responsibilities, often by means thought to be erroneous and contrary to self-interest. Spontaneously constructive efforts

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largely grow out of such loyalties, and they constitute a very large part of the cohesiveness of organizations.

The highly moral character of these relationships will not be understood unless it is recognized that subordination is not a criterion of personnel loyalty. Mere acceptance of orders, the making of prescribed reports, the effective performance of specified functions are all consistent with essential disloyalty, and, indeed, can be a method of sabotage.

Nor should personnel loyalty be confused with personal loyalty as involved in the ordinary social relations of individuals. One kind of loyalty does not involve the other. In fact they are usually incompatible. This is readily seen where there is a change of official status or relationship, for example, in cases of retirement, termination of employment, promotion. It is probably very much the exception when two persons bound by mutual official loyalties remain close personal friends after the termination of official relationship—for example, when one retires. One reason for this is the restricted extent to which any individual can maintain close personal contact with others. Another is that close official relationships paradoxically are largely private and confidential. Thus where A and B are mutually loyal in an official relationship, and by the turn of events C replaces B, then A's loyalty to C requires severance of his loyalty to B. He cannot communicate to B what has become confidential with respect to C, and there is no longer the degree of common interest permitting intimate communications. Thus it would usually be regarded as very bad taste at best for A to discuss C's performance with B. Many a workman promoted to foreman has found, to his dismay, that his loyalty to a fellow workman is of a radically changed character.

Corporate Responsibility

The social invention of the limited liability corporation, whether for business or other pur-

poses, is, in my view, more important than any single scientific or technological discovery in making possible either utilization of discoveries or especially mass production or mass distribution. It is also an important factor in economic and social stability. Yet the corporation, as something having the attributes of a personality, is a legally authorized fiction. The concrete physical activities underlying it are those of individuals or organized groups. But a myth or fiction accepted widely as a basis for individual behavior becomes a social reality. Corporations can sue and be sued; can have title to property; are responsible to public authority, for example, in the matter of taxes; can be given privileges, for example, the right of eminent domain. Although there can be nothing to a corporation except its organization, there is imputed to it not only legally but popularly a special responsibility as if it were a person; hence there can be attributed to it moral or immoral action.

The imputation of moral responsibility—not merely legal liability and privilege—can be realized only in the concrete action of trustees, officers, and employees. The moral decisions they must make, however, are not of the order of personal morality, nor of official organizational morality, but of a fictitious entity where responsibility and obligations are in many respects outside the possibility of relevance either to individual or to organizational morality.

The responsibilities of corporations, aside from the obligation to conform to their charters and the law, are of two kinds: (1) those which may be called internal, relating to the equitable interests of stockholders, creditors, directors, officers, and employees; and (2) those relating to the interests of competitors, communities, government, and society in general.

Organizational Loyalties

Corporate entities, including not only formal corporations, and enterprises of partnership and of individual proprietors but also govern-

ment departments, and educational institutions, have no reality except as they relate to coordinate activities (whether directed, spontaneous, or autonomous) which as a whole we call organizations. The ethical problems of organizations, that is, their duties and obligations, are most conveniently considered as like those of formal corporations already discussed, although in some peripheral areas one must recognize that there is sometimes a moral situation of an organization distinct from that of the corporate entity. On the other hand there is a moral situation with respect to individuals and also to groups or communities related to organizations as entities with which we are now concerned. Many individuals feel an obligation to what they conceive to be an entity—an organization—that transcends personal interest or advantage. In extreme cases this loyalty has involved great personal sacrifices “for the good of the organization” that become matters of public knowledge; but for the most part this kind of loyalty is not publicly recognizable. It is sufficiently recognized so that elaboration of the idea is not necessary here; but it is not sufficiently recognized to make superfluous some comments about it. Naïve critics and cynics fail to recognize the high moral character of organization loyalties, their importance, and the ethical problems involved. This is probably due principally to the following circumstances:

1. With some exceptions, particularly in the fields of religion, education, philanthropy, and politics, individuals become attached to organizations for reasons of nonmoral incentives. It is not easily recognized that loyalty develops afterward.

2. At any given time the members of an organization include many who have no loyalty to an organization.

3. Concrete expressions of organization loyalties relate chiefly to action in small groups (subsidiary organizations) that are overlooked or discounted.

Economic Responsibility

We are so accustomed to think of economic behavior in terms of calculation, supply and demand, efficiency, maximization of profits, that we leave out of account economic morality. It has many forms from the simple conviction that one should discharge obligations with respect to debts to a moral horror of waste or of inefficiency. When I was a boy, repeatedly dinged into my ears was the aphorism “Willful waste makes woeful want,” which I seldom hear nowadays. Waste was not merely economically inept, it was sinful. With this embedded in my moral sense, no economic or political argument can convince me that the destruction of food stocks to maintain prices is morally defensible. A trivial example is my perpetual annoyance at the appalling waste of electric current for lighting, manifest in every organization with which I have or have had any connection. I do not doubt that such waste is going on right now on this campus at Berkeley. In one organization for which I had responsibility I found that the annual electric bill was about \$5,000. I estimated that at least half was wasted, but I decided that to correct the situation involved a nagging pressure to change habits that would cost more than it was worth. I should have to suffer in silence. But I could not resist from time to time visiting empty offices and switching off the blazing and useless lights.

The moral horror of waste and patent inefficiency is, of course, often reinforced by economic sanctions such as the danger of losses or bankruptcy, a fact that leads many to assume that conservative and efficient management is merely a matter of effective calculation. This is too limited a view. Calculation is not a sufficient basis.

Technical and Technological Responsibility

Another type of morality is that to which I give the title “Technical and Technological Re-

sponsibility." It is commonly assumed that this kind of responsibility is involved in the work of the creative artist, the first-class artistic performer, the experimental scientist, an artisan such as a first-class toolmaker. It is not so widely appreciated that the adherence to high standards of performance is a common characteristic of many kinds of technical and technological work, including the management of human relations in coöperative enterprises. This failure to recognize one of the most important factors in business operations is due perhaps to the difficulty of making explicit the standards of performance in much technical work. The reality of the moral factor in much work commonly regarded as merely technical is manifest when, as a matter of deliberate policy, the attempt is made to reduce standards, say, for economic reasons. The accountant, the engineer, the manager, all resist such efforts not as a matter of insubordination, conscious unwillingness to conform to prescriptions, but as moral reaction to doing thing wrongly.

The significance of this reaction may be illustrated by the following case. A manufacturer was engaged in producing a certain type of vehicle of very high quality, using the best materials and a high grade of precision workmanship so that each unit was to a considerable extent equivalent to a custom job. It was decided to produce the same type of vehicle by mass production methods, using materials of lower quality and less precision in mechanical work. The manufacturer attempted to do this in the same plant, merely lowering standards and using some new machines, but with the same organization. The attempt was a failure. The old organization simply could not produce effectively with lower standards, so that finally a new plant in a distant city with a new organization was set up to produce the cheaper product. Note that this is not a case where new skills had to be learned. In general, less skill and less time were required. The acceptance of lower standards was morally repugnant.

In the converse case, where an attempt might be made to change from a low quality product to a higher one, the moral resistance to the change would be evident—it would often seem wasteful and even silly to those affected.

Legal Responsibility

The last type of morality I wish to present I have called "Legal Responsibility." By this I mean much more than a propensity to conform to statutes, court decisions, regulatory rules. I include also the rules of internal and private character that are important aspects of the operations of formal organizations. No doubt much conformity is a reflection of interest in avoiding sanctions or liabilities, but the morality I am speaking of transcends this interest. Its basis is the deep belief that the kind and degree of order involved is not only indispensable to effective coöperation and the proper distribution of specific responsibilities, but also is essential to equity and justice, and that the flouting of legal prescriptions is destructive of integrity and morale in an organization. Therefore, immediate or even ultimate advantage or disadvantage of any specific requirement is irrelevant.

I hope that this incomplete description of some of the kinds of morality involved in business organization is sufficient to convince you that the moral factors are of predominant importance. Clearly they are complex, some being quite independent of others, some closely connected and interdependent, and most of them imponderable. But little reflection is needed to see that they involve many inconsistencies and contradictions, so that the conflict of responsibilities is a characteristic condition of coöperative efforts. To this important subject I turn next.

CONFLICTS OF RESPONSIBILITY

Experience, or even contemplation and imagination, suggests that if there are simultaneously in effect different sets of moralities,

then there is likely to be ethical conflict or dilemmas of loyalties and responsibilities. This situation is certainly a characteristic of decisions in the world of affairs; but its nature is concealed by the labels by which it is described, such as "personality conflicts," "conflicts of interests" (economic, political, or prestige). It is also concealed by the privacy with which the struggles for the discharge of conflicting responsibilities are veiled. Men seem unwilling or unable to reveal moral struggles, and often seem forced to concoct rationalizations of their decisions instead of "the real reasons."

In what follows I shall attempt to state briefly the nature of a few types of moral conflicts to suggest the kinds of conflicts which we should look for in a study of the ethics of practical affairs. But first a few general remarks are desirable to avoid confusion.

The first is that most of the moral systems in effect, unlike the Ten Commandments or the Sermon on the Mount, are not explicitly formulated or coded. They are "feelings" or "attitudes" made evident by overt action (or restraint) or overt (i.e., verbally expressed) decisions. This is an important fact suggesting the great difficulty of understanding the moral situation. It is due not merely to the limited ability of most people for self-analysis and to their inarticulateness, but also to the fact that morals are in many respects felt to be private, not appropriate or seemly for public expression.

The second general remark is that it is important to distinguish two classes of moral conflicts. The first I shall call "objective conflicts or contradictions;" the second, "subjective conflicts or dilemmas." In the first class inconsistency of behavior is not recognized or admitted by those "guilty" of it, but it is apparent to observers. One of the interesting instances of it is the propensity of businessmen to effect purchases or consolidations of competing enterprises, although persistently extolling competition. These opposing views are sincerely

held, and the contradiction simply not realized, for in the concrete situation not to try to effect consolidation would seem to be a dereliction in one's duty to stockholders, or to heirs, or to the organization, or to the discharge of other obligations.

This kind of objective conflict is commonly observed in many other circumstances including the conduct of individuals of high moral or religious convictions. What is involved is not insincerity or hypocrisy. This kind of conflict can lead to personal recrimination and lawsuits, but not to personal frustrations and anxieties.

The most crucial testing of behavior from the standpoint of morals in business comes from conflicts of responsibility. Almost every moral issue in matters both large and small arises from such conflicts, although in business they are most frequently not recognized, or at least not expressed as such. I should like to explain the nature of such conflicts by three illustrations. Those I have chosen relate to large and complex problems having a certain dramatic character, which make them serve better as illustrations, but it should be remembered that the nature of these conflicts could be exemplified in the thousands of moral dilemmas, hidden from public view or discussion, that are the main burdens of the administrators of affairs.

A friend who was employed in the American military government of Sicily dropped in to see me after his return to his usual academic functions. I asked him what he had been doing in Sicily, and he said he had been engaged in making public opinion polls for the American military government among the Italian citizens of Palermo. It developed that when the American forces had taken over, practically all the inmates of the prisons were released on the mistaken assumption that they were political prisoners regarded as enemies of the Fascist regime. Consequently, there were released not merely political prisoners, but also thieves,

burglars, rapists, and murderers who then proceeded in their usual practices to the terror of the civilian population. The attempt to bring this situation under control by arbitrary methods, such as arrest and incarceration on suspicion without trial, was opposed by the legal authorities of the army as un-American and in violation of the Bill of Rights. I suppose there is no one in my audience who, like myself, does not regard the Bill of Rights as the most fundamental legal basis for political and social security. When the citizens of Palermo were consulted, many suggested that arbitrary methods of arrest and detention were the only way to get the situation under control. When it was suggested to them that with such methods serious injustice would inevitably be done to a number, if not to many individuals, to this the pertinent reply was made that failure to establish control of the lawless behavior of many ex-prisoners inevitably resulted in a far greater injustice to the many victims of these criminals. This certainly could be true. The situation, therefore, presented a moral dilemma of the most crucial character. Under such conditions, should procedures we usually regard as of fundamental importance to maintain be abandoned to prevent the great injustice perpetrated by failure to maintain law and order? The right of the President to suspend the writ of habeas corpus under certain conditions involving a great moral responsibility, is recognition of this type of dilemma, which is experienced every day in the conduct of affairs.

My second illustration relates to problems of engineering where moral questions to the uninitiated would not seem to be prominent. That this is not so can readily be appreciated by considering what are ultimately moral problems, what are called "margins of safety." It costs money, frequently very substantial amounts, to introduce factors of safety to offset uncertainties of future conditions, errors of calculation, and the like. When it can be assumed that the economics are such that no

great question of practicability is involved, there is no great problem. It is merely one of efficiency in engineering. But where the cost of factors of safety is such as to make the economic feasibility of an engineering enterprise doubtful, the problem is different, for the decision must then be whether to deprive the community of a service or the entrepreneur of an opportunity, or to take the risks of failure.

The question just discussed leads easily not only to that of accident control which comprises the question of safety factors in structures and electrical and chemical systems, but also to matters of personnel and discipline. Whenever there is a serious accident of catastrophic character in which many are killed, the public reaction frequently is that such accidents should be prevented at no matter what cost. It is easy to see, however, that in many situations the reduction of possibilities of inadvertent occurrences can be obtained, if at all, only at very great expense in the introduction of material factors of safety and by excessive inspection, testing, and policing. Many of the services we now have would not be economically feasible if the "Safety First" slogan was excessively applied, especially in the early stages. Consequently, those who make decisions in such matters are confronted with moral issues. To what extent is one morally justified in loading a productive undertaking with heavy charges in the attempt to protect against a remote possibility, or even one not so remote?

METHODS OF RESOLVING CONFLICTS OF RESPONSIBILITIES

Reflection would suggest, and experience shows, that although conflicts of responsibilities are recognized as presenting moral issues, a condition of moral tension in a business, or any other kind of organization, can become unbearable and disruptive, leading to severe political types of controversy and opposition. It therefore becomes important to discover and develop methods of resolving such conflicts. No

comprehensive discussion of the techniques of such resolutions can be given here, but a few words should be said about three of the main types of solution of this general problem.

The first may be called the judicial method. This essentially is the process of narrowing and delimiting the areas of responsibilities, thus restricting the incidence of conflict.

The second method of resolving conflict is that of reconciliation, the process of demonstrating that apparent or alleged conflicts of responsibility are pseudo-conflicts based on false assumptions or ignorance of the facts. This is a process continually in use in organizations; it is frequently expressed as "changing the point of view." It also frequently involves redefinition of jurisdictions.

The third method of resolving conflicts of responsibilities may be called that of the invention of concrete solutions. Thus, where a proposal which seems desirable from one standpoint appears to involve consequences that are seriously deleterious in some respects, the solution may be to discover or construct another proposal which will effectively accomplish the ends initially desired without involving the deleterious effects to be avoided. This may be illustrated by the analogy of certain drugs which initially may be of great value in the therapy of a particular disease, but which have side-effects that may be harmful or even fatal if their use is long continued. This presents a dilemma for the physician and often for the patient. It leads to efforts, often successful, to discover derivative or analogous drugs having the desired therapeutic properties, but not having the undesirable side-effects. The development of Novocain as an alternative to cocaine is one of many instances that could be adduced. The need for invention of alternative means is one of the chief reasons for the effort to secure people of great ability, for alternative solutions call for imagination, fine discrimination, and persistence. Many of the moral collapses of individuals in active affairs result from their be-

ing placed in positions involving moral dilemmas which they have insufficient ability to resolve by invention and construction.

CONCLUSION: THE SIGNIFICANCE OF THE DISCUSSION

Rather than presenting a summary of the discussion, I think it might be more useful if I made a few remarks regarding the significance or the pertinence of this discussion to the problems of our times. This is partly because it seems to me that any summary at this time would lead to easy generalizations and much oversimplification. I have barely touched upon, have merely assembled some illustrations of, an underlying situation and a set of problems which it seems to me no one adequately comprehends.

This at least partly results from the increased importance and complexity of moral behavior. Unlike many of the jeremiads of today, what impresses me the most in the present situation is not the confusion, the frustration, and the irresponsibility to which so much attention is given, but rather the enormous increase in responsible behavior that has attended the growth of modern civilization and its technological expression. Despite the wars of recent years and the conflicts of many kinds of which we are almost pathologically conscious, the fact is that a network of social behavior of enormous size and complexity is carried on daily and largely autonomously with relatively few errors or failures, although it is the errors and the failures that occupy us almost entirely in the news reports.

This increase in the magnitude and the complexity of moral behavior is first the result of increased specialization, especially in economic activities and in the machinery and materials which are employed for materialistic purposes. Attention is increasingly given to the technical knowledge now required and to the technical skills arising from specialized experience. The moral factor involved in these activities seems

to be almost entirely neglected. Yet the dependability with which the burden of specialized activities is carried on, and the dependability which we ascribe to those who do the carrying on, is the most essential aspect of modern civilization.

Thus in earlier periods morals were confined to a relatively small range of alternatives which were conspicuous by the fact that they could be more or less rigidly adhered to and enforced. Needless to say this is so little appreciated with respect to specialized functions that it is extremely difficult to convey the nature of the moral problems involved except to those who have knowledge of the specific functional problems. Indeed, it seems to me that the most important of our problems is to convey an understanding of the moral issues that are involved, rather than the technical and scientific questions to which so much of our educational and training processes are directed.

This matter takes on increasing importance with respect to one of the crucial problems of our times: how to secure the essential degree of coordination of a vast system of activities while securing the degree of decentralization and autonomy essential to initiative and, indeed, to responsible behavior. It is almost obvious that those who are not capable of dependable behavior cannot be entrusted with the making of local decisions. Yet, if this cannot be done the burden placed upon centralized authority for securing appropriate behavior over vast areas is in fact an impossible one. The span of control is so limited that despite methods of specialized training and the inculcation of the appropriate points of view authority could not sufficiently operate if it were not for the development, whether inculcated or spontaneous, of the moral sense to which we broadly give the name "sense of responsibility." Responsibility cannot be arbitrarily delegated and, therefore, a high degree of effective autonomous behavior

cannot be secured except as responsibility is freely accepted. When so accepted the possibility of effective autonomous behavior is realized.

It should also be noted that it is the moral problem that leads to much frustration and even to pathological behavior. This seems to me to have been largely neglected by psychiatrists who have been concerned with other factors in personal behavior. It has been well and illuminatingly discussed by Eliot D. Chapple in an article entitled "Contribution of Anthropology to Institutional Psychiatry."⁴ This neglect is to some degree responsible for the neglect of the moral factor by those in responsible management positions, a neglect that perhaps is reinforced by the relative ease with which technical problems can be approached.

Another aspect of this subject which deserves emphasis is that it indicates the importance of communication from within and to without in a specialized organization. Again and again it has been made clear to me that public misunderstanding is due largely to lack of appreciation of the moral elements involved in specialized activities and the extreme difficulty of conveying to outsiders what these moral elements are.

It must occur to anyone who considers this subject that we are in a state of considerable ignorance. It simply is not known to any wide degree what are the number and the character of the moral problems that are faced by those who do the world's work. It is here, I think, that the universities in the future will have a great opportunity, for I doubt if those within our organizations can be sufficiently adept and objective to give appropriate study to the nature of the moral problems which they face. . . . Nevertheless I think a deep reflection upon the nature of business activities will indicate that this is inevitably the kind of investigation that is required.

⁴ In *Human Organization*, XIII, 2, (Summer, 1954), 11-15.

SIMON RAMO

Weapons System Management

Both government and private industry face important issues in weapons systems engineering.

Systems engineering has always been a part of every engineering task. It is the integrating of the whole, as distinct from the invention and design of its parts; the creation and analysis of the over-all answer to a problem; the breaking down of the total into a set of harmonious, realizable, specified parts; the assurance of compatibility and consistency in the ensemble, and the relating of that ensemble to the outside world that has originated the need and that will employ the final result. These factors are present in varying degrees in creating every single piece or group of equipment from a chair to a transcontinental railroad.

Why then have the words "systems engineering" and "weapons systems" been receiving so much attention recently? Some things written lately about systems engineering suggest that it is a completely new discovery, a fundamental mental discipline. This implies that America's power systems, telephone systems, and strategic military forces might have been created by the random dropping into place from the skies of an assortment of previously unrelated components and people which just happen to work together fairly well.

The increased concern with systems is partially due to the fact that today the nation is

attacking problems of much greater complexity and size than in the past. There are many more interactions among the parts and parameters of every project and there is greater dependence on recently discovered scientific phenomena than was ever true previously. Consequently, those parts of the whole job known as "systems management" and "systems engineering" have become both much more important and difficult. Some of the old techniques used by systems engineers have had to be sharpened and extended and new management procedures have had to be invented to meet the new scale of technological ambitions.

This seems particularly obvious in such military systems as a complete ICBM system, or an air defense with early warning, guided missiles, and automatic control. It is true also, however, in the industrial and commercial world at large. Here too we see increased speed of production and travel, larger numbers of interconnections among organizations, and need for operating with close control over widely and rapidly changing situations. The industrial demand for designs of new large complexes of men and machines to meet new problems has of late been accelerated enormously.

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WEAPONS SYSTEMS

Let us try to separate some of the problems involved in systems engineering, starting first with the problem of the customer—for instance, the military. When military personnel use the words “weapon system,” they are often referring to the necessity for proceeding on the basis that, in planning a system of men and machines to do a specific military task, all of the pieces must go together to make up a satisfactory whole. The weapons system concept simply means, in other words, that if a good system is desired as the end point, it is not wise to go about procuring pieces with little regard for the relationship of each to the others, as to performance, as to timing of attainment, or as to optimum use of funds. This seems so obvious that it hardly seems to deserve discussion. But some aspects of weapons systems are very debatable and do deserve discussion.

THE CHICKEN OR THE EGG?

One of the knottiest issues of weapons systems management is the basic approach to designing the system itself. It is possible to design a weapons system simply by selecting its individual parts from what is already available—man or machine. This way of designing a system has the advantage that schedules and performance can be predicted with relatively high confidence and the reliability in the initial stages tends to be better than when the system is built around radically new components. A system designed from on-the-shelf items, however, cannot take advantage of the latest technological advances.

Of course, some straightforward deviations from this approach are possible. For example, during this primitive type of systems design, one might notice how much better the system would be if only certain improvements were made in some of the on-the-shelf components or if some entirely new component were invented. Requirements for new components thus appear, and programs for their development are begun.

Later, then, still using the same method for systems design, an improved system becomes possible.

Now if the design of a workable total system is the primary goal, then there is presumably no excuse for poor coordination—for some things being accomplished as scheduled and other things lagging behind. This is beyond discussion. But there is much room for discussion and debate about whether the total system itself should have priority over unrestricted component research.

If, for example, we always wait for systems designed to disclose the desirability of improved or new components, we will always have those improved and new components late. They will be ready for the next system, but never for the one that we are trying to design today. On the other hand, if component development is done on the assumption that systems of the future will require the improvement, then presumably the advanced systems designer will find that only some of the newly arrived components are really useful in his system and that others he could have employed have been neglected.

The solution to this dilemma is clearly one that involves some of both approaches. Systems creators must somehow be allowed to dream up systems that will answer requirements of the future but are based on components that do not exist. There is even some excuse for systems inventors being allowed to consider systems based on components which not only do not exist but which may, for all he knows, never exist. Only in this way can we be sure that we shall have the radically improved over-all systems to call into play component-trends that may be decisive at some time in the future. Similarly, we must allow those engaged in the more specialized research and development of system-pieces to work for what they think of as better elements, even though we do not have a guarantee that the new direction in which they are going will ever find a place in the

systems of the future. There will be some effort which fails to be exploited, or at least falls short of direct application in the near future, but only by such penalties can we avoid the more severe penalty of falling behind technologically.

THE SPECIAL PROBLEMS OF BIGNESS

The hottest debates and the most confusion center on the management of big programs, particularly in carrying out weapon systems development and designs. If we were engaged only in doing something which we have done many times before, or which involved but slight departures from the past, there might be little to argue about; but the rapidity with which we are heading for an ever more complex and highly technical society requires us to consider projects which seem most often to be enormous steps in size, complexity, and technological advance. Often the schedule for the attainment of the big step turns out to be unrealistic. To accomplish it on schedule, or nearly on schedule, requires an unusual marshaling of resources which are usually widespread geographically and are under the control of a large number of semi-independent groups, each with some substantially different ideas as to how to go about the job. So the arrangement-making task is itself a challenge.

Moreover, the big systems job requires many new and expensive facilities, and often only the government can furnish the major portion. It generally requires also a host of specialized services and other contributions. To see a weapon system through from conception, research, development, and production to operation requires the tying together of a very large team with many attendant problems in communication and direction. On top of this, it is only realistic to say that no major system can be completed from visualization of the requirement to its obsolescence without funding problems, political problems, problems of critics,

and problems of those who did not achieve control or a place in the project. All of these complicate the job of seeing the project through and sometimes even threaten its existence.

Of course, far from the least of the problems is the purely technical one. Usually what is attempted in weapons systems presses hard against the current state of the basic sciences as well as engineering. Consequently, nothing but exceedingly competent technical effort at the top can see a major new complex weapon system through its research and development plans. Ideally, this technical necessity should be the very foundation of the organization of each project, but sometimes it is nearly lost in the rush to care for all the other problems.

No wonder then that there are differences of opinion as to how to go about organizing and carrying out big programs of weapon systems development.

The problem would be tough enough even if everyone concerned were thinking only about getting the job done and not about his place or his group's place in the scheme of things, but the fact is that industrial organizations and government groups tend to believe and sell ideas of systems management that will enable them to get the programs they want.

Companies engaged in military weapon systems working for profit can show an acceptable return on investment only by producing for the system and by parceling out subcontracts. Systems engineering itself pays relatively little, because the fee base established by government regulations and/or by precedent causes the return for each machinist employed by industrial organizations to be higher than the return on investment for a scientist. Typically, an industrial concern gets a profit based on its total sales, and a large fraction of the sales in weapons systems come from subcontracts in which there is no investment by the prime contractor. Still other portions of the sales come from the assembly of purchased parts. A good

part of the facilities are often furnished by the government, with government guaranteed bank loans to support work in process.

The result is that industrial concerns seek the "large" contract and want to be in the prime contract position. A prime contractor can usually choose the subcontractors, what to put out to subcontractors, and what to keep for himself. He has, in other words, first choice of that part of the business which he is to get from the total—a total which he controls and from which he makes his plans.

Accordingly, while systems engineering itself is difficult and unprofitable, systems engineering is often looked upon as a way to insure the more profitable production back-logs.

RELATIONS BETWEEN GOVERNMENT AND INDUSTRY

The relative role of government and industry in systems management, particularly in the research and development phase, is a major issue. As the nation implements ever larger and more complex systems development, not only for military but also for other purposes, we may expect this issue to grow. For example, how can a nation-wide system for airline navigation and traffic control be developed without agreement among a great number of governmental and private agencies—the CAA, the CAB, the FCC, the Army, Navy, the Air Force, probably the State Department (because we have foreign planes as well as our own to consider), the airlines, the companies that make planes, the states and municipalities, the airport authorities, and the airline pilots' association—to say nothing of the coordination of computers, radar, and communications equipment. Surely the idea of private enterprise alone bringing such a system into being is unrealistic.

In this situation, and in others like it, the government is itself either the complete customer or it is the logical chairman of the interested parties. The government cannot meet

these responsibilities sensibly unless it has a substantial group of competent scientists and engineers. If these scientists and engineers are to stay competent, up-to-date, and alert, they must have their hands in the details to a considerable extent, even though private industry furnishes the bulk of the engineering and production services necessary to develop and implement the complete system, and even though university or other non-profit groups serve in an advisory capacity.

Ideally, private enterprise would be used to the fullest extent and the competitive effort traditional in our economy would provide us with the best weapons systems management, development, and production. Since government has to sit in as customer or chairman, at least on military systems, the Department of Defense, also ideally, would have an in-house capability sufficient to relate the needs and the budgets and other government parameters to what science and industry can produce. The government would so specify and describe the job that an industrial organization or a team of industrial members could take over and provide the desired solution. In this ideal plan, industry would have highly competent systems managers, scientists, and engineers who would be capable of directing and influencing the output of their organizations with proper appreciation of government requirements and who would be sufficiently susceptible to governmental direction to insure responsiveness to the "big picture" problems that should influence the details of the work.

But, of course, neither government groups nor industry groups are ideal, and when any specific system development is needed, the government must choose from a number of alternative compromises. For example, an in-house government group, including scientists and engineers, can carry the research and development into an advanced stage and then turn the project over to private industry. This has some advantages: it keeps the government's tech-

nicians up to date by making it possible for them to take part in the development that they are called upon to direct; it insures responsiveness to the government's needs and minimizes competitive sales slants.

But it has its disadvantages too. It is difficult in the civil service atmosphere to complement outstanding individual scientists in government groups with the necessary large teams of comparable competence.

But more important than this, time is lost when the systems work eventually moves out into industry, and the new groups have to become acquainted with the details. No matter how great the liaison between governmental and industrial groups may be during the initial stages, many detailed design changes are usually necessary to adopt to the production methods of industry. This splitting of research and development from production also handicaps an important time-saving technique: overlapping production with research and development.

Of course the government can decide to go to industry immediately. It can deal with one prime contractor, who takes on the systems responsibility with a minimum of additional direction and surveillance by the government, or it can arrange a team of contractors, giving one the systems responsibility and others responsibility for specific subsystems. The advantage of one team carrying a system from development to production is real, but this procedure also has a major disadvantage. It is generally hard for a systems engineering group that is not a part of the government to respond as closely and quickly to governmental desires as to their own sales departments. (In the Air Force's ballistic missile program, this problem was attacked by placing the government military group in the same buildings with the industrial organization carrying the systems responsibility.)

In the three military services and in other government agencies are many groups working

on systems problems. Some of these groups are outstanding in their capabilities and some are mediocre. Numerous industrial organizations are engaged in the development of weapon systems components and most of them have ambitions to take on the "prime contract" to do the complete weapon system management in the development phase. Some of these groups have very little systems competence; others are expert.

Accordingly, when the military has a project to assign, it is not always obvious how to proceed. Surely if a project requires a sophisticated comprehension of the relationship between the military requirements and the scientific art, and if no industrial organization seems to have yet had the necessary experience, then the government is obliged to place a much larger share of the systems responsibility within the government group which has been active in formulating the entire program (assuming there is such a group)—even to the extent of prototyping the design of certain critical elements. In the case of such specialized fields as nuclear warhead development, the government has seen fit to arrange for such special relationships with university or industrial groups that these groups have become a form of government in-house capability—quite a different arrangement from the usual industry pattern. In other instances, it becomes quite clear that industry must be used to the fullest, that it has the basic competence, and that the assembly of a government group adequate to carry the program on the scale required would be quite impractical.

The relative roles of government and industry depend also on the precise nature of scientific work that is necessary. For instance, a project that includes only some scientific explorations is best handled differently from one to develop a complete weapon system. To prove that something is technically feasible may oftentimes be done by a small laboratory group with spectacular success in a short time. This

can create the impression that the job is all done. Experienced weapons systems developers know that following the feasibility demonstration there is a tremendous amount of detailed and difficult systems engineering, component engineering, supporting equipment engineering, and, equally important, a very tough problem of management coordination to insure the attainment of a complete system with the necessary reliability, quantities of hardware, operational implementation, and all of the attendant facilities.

Clearly the development of a complex weapon system requires participation by both government and industry. Precisely how a specific development program is organized and directed may be expected to vary from project to project. There is more than one way to skin a cat, and we are concerned here with several different kinds of animals—not just cats. There is perhaps no better indication of a lack of real understanding of systems engineering on the part of one who presumes to label himself an expert than for him to describe and espouse one very specific type of organization.

RECOMMENDATIONS

It has been easier to set forth the problems involved in organizing and directing research and development of weapons systems than to

outline the answers. It may, however, serve a useful purpose to repeat here at least some of the principles to be kept in mind in systems development.

1. Systems creators should be provided some allowance to dream up systems that will be based in part on components that do not yet exist and may even be impossible to develop. Also, developers of components should be given some freedom to follow lines of research that lead to products which have no guarantee of a place in systems of the future. The gains from such freedom to innovate are likely to more than offset the waste that could result.

2. Greater incentives should be offered to systems developers so that the systems pioneer's financial return will not tie so directly to his production backlog.

3. There must be flexibility in the ways in which different projects are organized and directed. Projects vary according to size, complexity, reliance on components not yet developed, and the experience possessed by government and industry with the problems involved. Because all of these factors have to be taken into account each time a project is organized, neither industrial nor government groups can afford to become fixed in their concepts of how the development of a weapons system is to be directed.

The circumstances of the world are so variable, that an irrevocable purpose or opinion is almost synonymous with a foolish one.

W. H. Seward

LEONARD A. DOYLE

Reducing the Barriers to Private Foreign Investment In Underdeveloped Countries¹

How can underdeveloped countries attract private foreign capital without running the risk of economic colonialism?

Of the many difficult problems confronting the United States in its rather new role as leader of the Western democracies, that of assisting the so-called underdeveloped countries is one of the most perplexing. To date the assistance has been chiefly through government agencies. Private investment has played a small role in most cases. But because the United States is a leading exponent of the system of private enterprise, for it to give economic aid through government agencies presents certain difficulties. In the first place, a large expenditure on foreign aid by the United States requires higher taxes to finance the domestic programs of the government. In the second place, and perhaps more important, foreign aid extended by the United States government will usually be extended to a foreign government or government agency and not to private individuals or corporations. Instead of encouraging private business enterprise as a political barrier to communism, then, the government aid program tends to produce socialist organization in the recipient countries.

That the role of government agencies is now

so important in the economic development programs of the underdeveloped countries is attributable to a number of factors. Perhaps the most important is that one of the conspicuous features of underdevelopment is a combination of political and financial instability which makes the country a poor risk for private investment. Another important factor may be antagonism to foreign enterprises and foreign personnel. Further, some countries may not present attractive investment opportunities to private investors; and some underdeveloped regions are so poor in natural resources that capital formation is not the answer to their problems.

Although many things characterize underdeveloped countries, two characteristics are

¹ This article is a revision and expansion of a proposal submitted to Mr. Ali Budiardjo, Director of the State Planning Bureau, Djakarta, Indonesia. The author gratefully acknowledges the helpful criticisms and suggestions of Dr. Leon Baronsky, United Nations Consultant to the Planning Bureau in Djakarta, Mr. Hans Schmitt, member of the University of California Field Staff at the University of Indonesia, and Professors W. L. Crum of the School of Business Administration and Howard Ellis of the Department of Economics, University of California at Berkeley.

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common to all such regions—features which are the essence of economic underdevelopment. The first is a shortage of people competent to carry on the managerial and technical work required in modern industry. The second is the scarcity of capital from domestic sources for industrial development. Managerial and technical personnel and capital are, of course, only in short supply—not nonexistent. The relative scarcity of capital and managerial talent is simply a measure of the fact that a country wants to develop at a rate much faster than its own internal resources will permit. The essential feature of an underdeveloped country in the nuclear age is that its aspirations for economic welfare greatly exceed its existing capacity—and it wants help from abroad.

Typical of the political activity in the underdeveloped countries are promises of a level of economic life beyond the present capacity of these countries to produce. This is understandable, and in fact is a political device about as old as political life, but a dangerous device at this time. The danger now is that governments of underdeveloped countries may be overturned either by force or by the ballot for failing to deliver the economic benefits promised at home and demanded from abroad. In a world in which two power blocs compete for allies, economic development may become a tool for political blackmail. To the extent that this is so there is likely to be a lot of money and effort directed toward economic development—not as an economic problem but as a device for political maneuvering. The ultimate danger in this is that the governments of underdeveloped countries can secure money for economic development from the governments of the western countries by playing this political game. But irresponsibility in the political and economic arenas may so hamper both private and government enterprise as to retard economic development and precipitate a crisis in which a so-called friendly government must be supported.

The newly-independent countries present problems in economic development not usually encountered in the other underdeveloped regions. These problems stem from the strong spirit of nationalism developed in the struggle for independence. To a people recently freed from a colonial status the foreigner is an object of suspicion, and political leaders in formerly colonial areas have used foreign economic exploitations as a major explanation for their present unsatisfactory economic condition. For these countries, the right to manage their own affairs without interference by foreign powers or foreign interest is probably the most important thing there is. The governments in these areas are frequently caught between promises to the people that most of their troubles would end when independence is secured and the hard fact of life that independence has increased rather than reduced their economic difficulties.

The newly independent countries find themselves in a position in which, although they may recognize the advantage of foreign private investment for their development, the apparent logic of their anti-colonial position makes it difficult or impossible for them to invite foreign capital. At the very time that a recognition of the need for foreign private investment is growing, there is a steady deterioration of the financial position of the government and a more or less serious demoralization of government personnel. Unless a way is found to get around the vitally important barrier that the fear of perpetual foreign control poses, private enterprise will be unable to put into some of the most promising underdeveloped countries the physical capital and trained personnel necessary to reverse the present economic and political deterioration—to provide the economic development required to make a reasonable case for the western system as opposed to the Russian and Chinese systems.

The central issue appears to be that of perpetual foreign ownership and control inherent

in private enterprise. From the point of view of an underdeveloped country recently removed from colonial status, economic development is more than a substantial increase in the total and per capita gross national product. Economic development is not complete until the new enterprises are managed by their own citizens and owned by citizens directly or by the government. Underdevelopment is the absence of these conditions; economic development is the attainment of these conditions. To an underdeveloped country, the great attraction of economic aid from foreign governments is that there is usually immediate national ownership and control—national being defined as either government, private individuals, or a combination. Thus a cement plant in Indonesia financed largely by a loan from the Export-Import Bank means that an Indonesian government agency owns the equity capital in the enterprise, which is then from its inception a national enterprise. With ownership, comes the control of the top management and technical positions. A national enterprise may concede its present lack of competent personnel and enter into a management contract with a foreign firm for a definite period. In this period, in theory at least, nationals are trained to manage the enterprise. The rate of replacement of foreign managers and technicians with national managers and technicians is a matter for the discretion of the appropriate national authorities and not for foreigners. If one argues that the underdeveloped countries will replace foreigners before their own citizens are qualified, the new countries will counter with the argument that foreign private enterprises are too slow in replacing foreign personnel.

The issue of foreign control and domination is far more important for large-scale enterprises than for small business units. Small enterprises tend to be owner-managed and the owners stay in the country for a long time and may well become citizens. Also, the question of prestige is not as important for small firms

as for large firms: national honor is not outraged as much by having a foreign beauty shop operator as by having a foreign manager for an oil company or a large bank. Given these differences between small and large foreign enterprises, it is useful to distinguish between the owner-manager enterprise (either sole proprietorship or partnership) and the corporation. The difficult issues appear to lie chiefly in the area of corporate enterprise.

If the welcome to private foreign capital in the newly independent countries is to be somewhat comparable with the reception these countries now give to economic assistance from government agencies, private investment must offer some program for the orderly nationalization of the enterprise—both in terms of personnel and of ownership. If private enterprise in the western democracies should attempt such a program, it follows that the recipient countries must also offer reasonable conditions for orderly nationalization. In other words, they must not expect to confiscate without compensation, and they should not expect to subject foreign personnel and foreign capital to continued harassment.

The thesis of this article is that the general goals reasonably sought by the governments and nationals of underdeveloped countries can be achieved without sacrificing the essential needs of private capital. The solution which is outlined in the remainder of the article is presented for a specific country in the newly independent group—the Republic of Indonesia. Although the proposal is presented in terms of the conditions in Indonesia, the merits and weaknesses of the proposal seem to apply to a number of underdeveloped countries and not just to Indonesia.

Foreign corporate investment in Indonesia at first may appear to involve objectives on the part of the government and the foreign investor which are mutually inconsistent. Reduced to skeleton form, the problem of foreign investment in the newly independent country seems

to come to the following: On the part of the new country, the objective is to attract foreign capital and foreign technical, professional and managerial personnel with the explicit understanding that they will be replaced by national capital and personnel at the earliest possible moment. On the part of foreign enterprise, the objectives are repatriation of the capital invested in Indonesia, over the life of the property involved and in the currency of the country of origin with purchasing power maintained; the prospect for a satisfactory rate of return on the investment with the profit convertible into foreign exchange; conditions of business and life for its foreign personnel in Indonesia which are free of unreasonable harassment and restraint, the opportunity to be accepted on their merits by the Indonesian community and to be a part of the community and not forced to live on "islands of foreigners."

Can these proper and reasonable goals be achieved, or are they fundamentally incompatible? I believe that all these various objectives could be realized through the medium of a satisfactory foreign investment law and some changes in Indonesian fiscal policy and practices.

It is not at all likely that foreign investors really quarrel with Indonesia's desire that foreign capital and foreign management come to Indonesia with the explicit understanding that they will be replaced by Indonesian capital and Indonesian management at the earliest possible moment. These are legitimate aspirations of any sovereign state. Every sovereign state can, of course, confiscate property, harass both domestic and foreign enterprise, pursue irresponsible fiscal policies, and—in short—behave pretty much as it wishes.

In a world of unlimited capital and unlimited managerial talent it would be possible to argue that the treatment of foreign capital and foreign personnel would have no effect on the supply. But what Indonesia and other un-

derdeveloped countries require for their aspirations vastly exceeds what they are able to provide from their own resources. Indonesia and other countries with exploding populations should set about seriously to attract foreign capital and management and to develop its own people for participation in industry and commerce. The two must go together, and it is time for such countries to take measures which provide reasonable assurances to foreign enterprise of their intentions to meet the responsibilities of their roles as partners prepared to contribute both capital and eventual competent executive personnel when the time comes for the initially more active foreign partner to retire and be replaced by the national partner.

THE GENERAL FORMULA

The foregoing is the basis for the proposal of this article: a partnership between Indonesia and foreign private capital. The partnership would provide for the orderly *replacement* of foreign capital and management by Indonesian capital and personnel, but under terms which would provide to the investor the prospect of full recovery of the initial investment, an attractive rate of return for the duration of the investment, and a political, social and economic climate conducive to both a high level of economic activity and a pleasant as well as profitable partnership.

How can this be achieved? How can Indonesia eventually acquire title to capital invested in Indonesia without resorting to confiscation? How can foreign management be replaced by Indonesian management? How can the cabinet of a country with very recent memories of colonial exploitation invite foreign capital without itself being defeated by the admittedly strong nationalists who want to "complete the revolution and get rid of all foreigners and foreign enterprise?" To meet these problems will require a bold and imaginative program and much courage and skill in explaining it to the people.

Indonesia is entering the family of nations at a time in which the economic wisdom of a fairly high tax on business profits and on personal income is accepted by most western capitalistic countries. What is more important, a somewhat similar tax program by capital-deficient countries is more or less expected. This kind of tax program is the procedure by which capital-deficient countries might accomplish the twin objectives of stimulating economic development and gradually acquiring title to capital initially supplied by foreign investors.

The proposal here, briefly, is that Indonesia use the corporate income tax as the vehicle for acquiring title to capital. While simple enough, this device calls for what may appear at first glance to be truly heroic self-restraint on the part of the government: it must systematically refrain from using all or the great bulk of taxes on the income of foreign enterprises for current government expenditure and instead allow these funds to be reinvested in the foreign enterprises themselves. What this amounts to is the simple proposition that the government of Indonesia be an equal partner in the profits of foreign enterprise and, by keeping the profits in the enterprises, substitute its capital for that of the foreign investor. This arrangement would permit the foreign investor to repatriate his capital and share of the profit and at the same time allow the firm to continue to operate at its original level and—if very profitable—to expand the scale of its operations. Since high profits would presumably indicate the need for more of the products or services of the enterprise, the profit rate would, as in capitalistic countries, be a partial guide to the areas in which economic activity should be expanded most rapidly.

The general scheme can perhaps be understood best with concrete illustrations. Let us assume that a new foreign investment law would provide the following:

1. The government of Indonesia will not dis-

criminate between foreign and domestic enterprise with respect to taxation.

2. Capital goods imported into Indonesia will not be subject to import duties.

3. All foreign enterprises over a certain size (say the equivalent in rupiahs of \$25,000 U.S.) operating in Indonesia must be incorporated under the laws of Indonesia, the incorporation provisions to be a part of the act. (The exclusion of small enterprises will permit sole proprietorships and partnerships of the owner-manager type to operate.)

4. The tax on corporate income, foreign and domestic, will be 50%. (The implications of a different rate will be discussed subsequently.)

5. Taxable corporate income will be defined carefully and will provide specifically for depreciation based on current replacement cost and the normal useful life. The use of current replacement cost will protect foreign investors against concealed confiscation brought about by inflation or devaluation of the currency; the normal useful life provision will protect Indonesia against capital transfer in excess of funds generated by current operations.

6. Foreign enterprises will be allowed to repatriate capital at the current official rate of exchange as follows:

- (a) All depreciation for the year, *if earned*.
- (b) All profits after corporate income taxes.

7. Repatriation of capital will be permissive and not mandatory. This debatable feature is not essential to the main argument. The following appear as the main pro and con arguments:

- (a) Permissive repatriation would permit the foreign investor to keep capital employed in the enterprise in Indonesia and so increase both the rate of current capital formation and reduce the demands for foreign exchange.
- (b) Permissive repatriation would delay the time at which the title to the enterprise would pass completely to Indonesia.

8. The government of Indonesia will be permitted to reinvest *all* of its share of the cor-

porate income taxes of each foreign enterprise, receiving therefor a common stock dividend.

9. Indonesian nationals will be represented on the board of directors of foreign firms in proportion to the amount of common stock held by Indonesia.

HOW THE FORMULA WORKS

To see how such a law would work, let us look at the accounts (in U. S. dollars) of a foreign enterprise in Indonesia under various assumed conditions.

Case 1.

The initial investment in fixed and working capital will be \$1,000,000, divided as follows:

Fixed capital subject to depreciation over a normal life of 20 years: \$800,000.

Working capital (cash, receivables, inventories, etc.): \$200,000.

The annual profit before income taxes will be 10% of the original investment, or \$100,000. The beginning balance sheet, in condensed form, would be as follows:

<i>Assets</i>	
Current	\$ 200,000
Fixed	\$ 800,000
Total	<u>\$1,000,000</u>

<i>Capital</i>	
Common shares, all held by foreign investors.	<u>\$1,000,000</u>

At the end of the first year of operations, assuming profit before taxes of \$100,000, the balance sheet before repatriation of capital and stock dividend to Indonesia, would be:

<i>Assets</i>	
Current (original \$200,000 increased by depreciation earned of \$40,000 and profits of \$100,000)	\$ 340,000
Fixed (original \$800,000 less depreciation of \$40,000)	\$ 760,000
	<u>\$1,100,000</u>
<i>Capital</i>	
Common shares	\$1,000,000
Earned surplus	100,000
	<u>\$1,100,000</u>

Under the formula, the enterprise would repatriate \$90,000 to the country of origin and issue common stock dividend to the govern-

ment of Indonesia in the amount of \$50,000. These transactions would then change the balance sheet after the first year to the following:

Assets

Current (original \$200,000 increased by government's retained profits)	\$ 250,000
Fixed (original \$800,000 decreased by depreciation for one year)	\$ 760,000
	<u>\$1,010,000</u>

Capital

Original shares held by foreign investors	\$1,000,000
Less liquidating dividend for depreciation earned	\$ 40,000
	\$ 960,000
Stock dividend to Indonesian government	50,000
	<u>\$1,010,000</u>

If the conditions originally assumed stay in force for the full 20 years—and there is no inflation—the enterprise would have earned \$2,000,000 in profit and would have completely depreciated the original investment in fixed assets of \$800,000. In effect the cash margin provided by operations would be \$2,800,000. This would have been disposed of as follows:

Repatriated to country of origin (\$1,000,000 in profit plus \$800,000 in capital)	\$1,800,000
In stock dividends to Indonesian government	1,000,000
	<u>\$2,800,000</u>

In 20 years, the balance sheet would show:

Assets

Current assets (original \$200,000 increased by government's retained profits of \$1,000,000)	\$1,200,000
Fixed assets (original \$800,000 less that amount of depreciation)
	<u>\$1,200,000</u>

Capital

Original shares held by foreign investors	\$1,000,000
Less liquidating dividends on fixed capital	800,000
Balance, representing original contribution of working capital	\$ 200,000
Stock dividends to Indonesian government	1,000,000
	<u>\$1,200,000</u>

It is important to note especially that, at the end of 20 years, the government of Indonesia could pay off the foreign investors for the remaining capital of \$200,000 and still have enough left to replace the fixed assets in the amount of \$800,000 and have \$200,000 for working capital. Given the conditions assumed, the objective of replacing foreign capital with

Indonesian capital is achieved. The period of 20 years probably would be long enough to develop Indonesian management at most levels.

Although Case 1, as given, provides the result desired in terms of permitting both the repatriation of capital and repatriation of profit, it is somewhat defective in that the division of the annual profit before tax of \$100,000 is assumed to be 50% to foreign investors and 50% for the government of Indonesia each year for the life of the fixed capital. Thus it provides for an increasing rate of return to the foreign stockholder and no rate of return to the Indonesian government for its retained earnings. Although this feature might have considerable merit in stimulating foreign investment, it might also prove unpalatable to Indonesia.

The formula therefore might provide for distribution of profits after tax for each fiscal year based on the relative shares held at the beginning of the year, *i.e.* after the repatriation and stock dividend of the preceding year have been reflected in the accounts. This revision would not affect the repatriation of fixed capital each year, but would result in a smaller amount of profit being converted into foreign currency and an increased investment by the government of Indonesia each year. In the case illustrated, the revised formula would not affect the accounts for the first year, but for the second year the situation would be as follows:

Capital stock at beginning of year, after repatriation for first year	
—in hands of foreign investors	\$ 900,000
—in hands of government of Indonesia	50,000
	<u>\$ 950,000</u>
(Proportion for foreign investors is 900/950; proportion for government of Indonesia is 50/950.)	
Profit after depreciation and before income tax	\$ 100,000
Tax at 50% (this amount to be retained in firm and stock dividend issued)	\$ 50,000
Profit to be divided on basis of 90/95 and 5/95	<u>\$ 50,000</u>

The net effect of the foregoing is that \$2,630

more is retained in current assets and the government capital stock is increased by this amount.

It would probably obscure the basic principle of the formula to pursue further the possible mathematical ramifications of the distribution of profit. In spite of the possible claim of undue enrichment, I favor the principle of having the government forego sharing in profit beyond the 50% tax until the initial fixed investment is repatriated. This is recommended in part because the provision would stimulate more risky investment, and also because of its implications for the development of a capital market in Indonesia.

Case 1, above, was designed to show in simple terms the exact replacement of the amount originally invested by foreigners in the enterprise. In effect this assumes no inflation and a profit rate after tax exactly equal to the rate of depreciation on depreciable assets. If the expected life of the depreciable assets were ten years instead of twenty, the profit rate before tax would have to be 20% on total original capital in order to provide, with a 50% corporate income tax, the Indonesian government with \$100,000 per year or \$1,000,000 in ten years. We may say, therefore, that (1) with a given corporate income tax rate the "before tax profit rate" must vary directly with the rate of depreciation, and (2) that with a given depreciation rate the "before tax profit rate" must vary inversely with the tax rate in order to enable the government to replace the foreign investor.

The fact that a high corporate income tax will make the position of the government more favorable also means that it weakens the position of the investor. Since investment depends so much on expectations, the government would do well to regard 50% as about the maximum rate. A lower rate would attract more investment. In terms of Indonesia's interests, the short-run and long-run objective would seem to be to maximize the total amount

of the income tax. Here the question of elasticity is important, for a lower rate (or price) may well produce a larger total tax by encouraging more investment and hence more replacement of foreign investors by Indonesians.

Indonesia must compete in the world capital market, and in this market one of the most important factors is the after-tax rate of profit. The higher the Indonesian corporate income tax rate, the smaller the investment flow will be. It is quite probable that now and in the foreseeable future Indonesia can attract very little foreign capital unless the effective (after-tax) rate of profit is in excess of 10%. The imposition of a recapture provision of the sort proposed probably would increase the effective rate required.

In order to develop further the implications of the proposal, let us consider two variations of Case 1. Case 2 is the same situation as Case 1, except that the tax rate is 25% instead of 50% and the profit is just enough to permit the Indonesian government to replace the foreign investors. Case 3 is the same situation as Case 1, except that the annual profit is doubled.

Case 2.

In order for the Indonesian government to be able to replace the foreign investor, it must secure a total of \$1,000,000 in stock dividends in 20 years, or \$50,000 per year. If the corporate tax rate is 25%, this requires a profit before tax of \$200,000 per year. Such a profit would allow the foreign investor an after-tax annual return of 15% on the original investment. In other words, a rate of 20% before tax amounts to 15% after tax. It seems probable that 15% would attract rather substantial foreign investment, even with the recapture provision—assuming the other conditions set forth at the beginning of the proposal were in force.

Case 3.

The beginning balance sheet, in condensed form, would be as in Case 1:

<i>Assets</i>	
Current	\$ 200,000
Fixed	800,000
Total	<u>\$1,000,000</u>

Capital

Common shares, all held by foreign investors	<u>\$1,000,000</u>
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At the end of the first year of operations, assuming profit before taxes of \$200,000, the balance sheet before repatriation of capital and stock dividends to Indonesia, would be as follows:

Assets

Current (original \$200,000 increased by depreciation earned of \$40,000 and profits of \$200,000)	\$ 440,000
Fixed (original \$800,000 less depreciation of \$40,000)	760,000
	<u>\$1,200,000</u>

Capital

Common shares	\$1,000,000
Earned surplus	200,000
	<u>\$1,200,000</u>

Under the formula, the enterprise would repatriate \$140,000 to the country of origin and issue a common stock dividend to the government of Indonesia in the amount of \$100,000. These transactions would then change the balance sheet after the first year to the following:

Assets

Current (original \$200,000 increased by government's retained profits)	\$ 300,000
Fixed (original \$800,000 decreased by depreciation for one year)	760,000
	<u>\$1,060,000</u>

Capital

Original shares held by foreign investors	\$1,000,000
Less liquidating dividend for depreciation earned	40,000
	<u>\$ 960,000</u>
Stock dividend to Indonesian government	100,000
	<u>\$1,060,000</u>

If the original conditions assumed operate for the full 20 years, particularly without inflation, the enterprise would have earned \$4,000,000 in profit and would have completely depreciated the original investment in fixed assets of \$800,000. In effect the cash margin provided by operations would be \$4,800,000, disposed of as follows:

Repatriated to country of origin (\$2,000,000 in profit plus \$300,000 in capital)	\$2,800,000
In stock dividends to Indonesian government	2,000,000
	<u>\$4,800,000</u>

After 20 years, the balance sheet would show:

Assets

Current assets (original \$200,000 increased by government's retained profits of \$2,000,000)	\$2,200,000
Fixed assets (original \$800,000 less that amount of depreciation)
	<u>\$2,200,000</u>

Capital

Original shares held by foreign investors	\$1,000,000
Less liquidating dividends on fixed capital	800,000
Balance, representing original contribution of working capital	200,000
Stock dividends to Indonesian government	2,000,000
	<u>\$2,200,000</u>

As a result of the higher profit before tax, the foreign investors will secure 10% per year on the original investment, and a higher effective return because of the repatriation of the earned depreciation. On the other hand, the Indonesian government would have \$2,000,000 invested in the enterprise at the end of twenty years, or twice the amount required to replace the original fixed and working capital—assuming no inflation.

If an enterprise produces more profit for the government than is necessary to replace the original capital, one might argue that the high profit indicates the need for expanding resources in the industry. This might be done by mutual consent of the foreign investors and the Indonesian government on a matching or other basis. Although this would present complications in accounting, they are not insurmountable and in fact are substantially similar to venture accounting or to the annual pool accounting of producer cooperatives. In effect each new investment either would increase the life of the enterprise for purposes of repatriation and replacement, or simply require an increase in the annual depreciation rate to permit repatriation and replacement within

the original twenty-year period. The law could provide for either alternative or both.

FREEZING THE CORPORATE INCOME TAX RATE

The chief drawback to the proposal as first stated is the use of a fixed corporate income tax rate of 50%. The problem is to provide both certainty of the tax rate for the foreign investor and flexibility of the tax rate for the Indonesian government. A fixed rate for the life of the enterprise is desirable to the foreign investor because his commitment, once made, is for a definite time period and he would not wish to have uncertainty of tax rate added to the uncertainty of the profit rate before tax. An increase in the tax rate would "confiscate anticipated profit." The government, on the other hand, must compete for foreign funds from year to year, and the ability to vary the tax rate would be its most important way of adjusting price (anticipated net profit) to changes in the international capital market.

The two requirements of a fixed and certain rate for the foreign investor and flexibility over time for the government are not necessarily in conflict. The problem could be solved by freezing the rate for each new corporation at that prevailing on the date its charter is granted. In this way the government could increase or decrease the rate for the purpose of attracting new capital, and yet capital once invested would have certainty as to its tax rate. In this way each corporation charter would represent a contract between the government and the foreign investors. In terms of attracting foreign capital, a firm commitment on such matters as tax rate, computation of depreciation on current replacement value, and annual repatriation of earned depreciation and earned profit after taxes would place Indonesia in a relatively favorable position for attracting foreign capital. Whether such guarantees would offset the definite life feature of the corporate charter is something only experience can show.

THE GROWTH OF A CAPITAL MARKET

Earlier in the discussion it was stated that the formula proposed would require heroic self-restraint on the part of the government in refraining from using its share of profits for current government account. This need not be so, however, if the government really intends to put its financial house in order and stimulate economic growth. Foreign investment under the formula would produce the minimum inflationary pressure in an economy which must import capital. Given the vast concealed unemployment in Indonesia, the initial plant construction and inventory buildup probably would not produce serious inflationary pressures, because the forthright government policy envisaged would also stimulate domestic production.

All capital formation which goes on in advance of saving in the country concerned is more or less inflationary. The more efficiently capital goods are constructed and the shorter the time interval between the start of construction and the start of manufacture, the smaller the inflationary pressure. This is a strong argument for private investment, but not nearly so strong as the saving in foreign exchange involved by foreign private investment. An important by-product of the scheme would be the stimulus provided for the growth of a capital market in Indonesia. This stimulus would come from the inevitable pressure on the government to use some of the tax revenue for current account. It could do so by selling its stock in the foreign enterprises, either to Indonesian investors or to foreign investors, or both.

The fundamental difficulty with developing a capital market in Indonesia under present conditions is that the low level of economic activity provides little saving, and the climate for investment is too unfavorable to stimulate formation of new firms. The proposed formula would first create going concerns under competent management; it would increase the level of

economic activity and hence the level of saving; and it would provide shares in Indonesian firms for sale on the market.

CONCLUSION

In concluding this brief and necessarily oversimplified presentation, two needs in particular should be emphasized: (1) the need for a high effective rate of profit, and (2) the need for a reasonably stable price level. Foreign investment in underdeveloped countries depends for its success on a relatively high rate of profit, simply because current investments in developed countries yield a relatively high rate of return with few of the disadvantages of foreign operations.

The provision in this proposal for computing depreciation each year on the basis of replacement cost of the fixed assets is not only necessary to foreign investors, but also it is a great public relations value in terms of Indonesia's past fiscal history. I believe I know enough about the views of American industrialists and their advisors to state categorically that two of the biggest obstacles to foreign investment are inability to repatriate surplus cash provided by operations (depreciation earned and profit after tax) and the depreciation of capital by inflation. Allowing normal depreciation charges (and repatriation) on the basis of current replacement cost would go as far as could be reasonably be asked in meeting these objectives.

I believe that the program above, if enacted into law, would keep constantly before the Indonesian government the needs for profitable and continuous production (including a responsible labor movement concerned with Indonesian welfare), for a relatively stable price level, and for an educational system capable of producing competent technical, professional and managerial personnel.²

² The writer will appreciate receiving reactions to this proposal. Communications should be addressed to him at the School of Business Administration, University of California, Berkeley 4, California.

ARJAY MILLER

Reporting to Top Management at Ford

—a highly developed system for keeping top management “in the know”—

The principal objective of top management reporting is to provide the facts so that management is in a position to evaluate, decide and act. To meet this objective, the Ford Motor Company's reporting system includes both regularly scheduled formal reports, which supply background information on recurring management matters, and special informal reports, scheduled as necessary for management discussion of particular issues.

Our reporting procedures probably are not applicable directly to any other company or group of executives. We have no neat set of “principles for an ideal reporting system” to suggest as a result of our efforts. (I suspect that those who have formulated such ideal systems have about as little repeat business as Procrustes.) As a general approach, however, our experience in developing a reporting system may be interesting and useful to other organizations with similar business problems.

EARLY DEVELOPMENT OF REPORTING SYSTEM

For many years until 1946, the Company had been highly centralized, with a few top executives making most of the decisions, important and unimportant. In this milieu, there were few reports, and they were generally of a highly specialized character.

The Company faced a serious management problem after the War, when Mr. Henry Ford II introduced a vigorous executive recruitment and development program. Over the next few years, the Company developed a staff-and-line organization, decentralized operations, and formed a strong central committee structure composed of both staff and line executives.

In 1946, there was an unusual, though formidable, opportunity to design a reporting system almost from its foundations. Our ultimate goal was a comprehensive set of control reports, but immediate resources were limited. Time, personnel, and the recognition that we could not then foresee many of our problems restricted our early efforts to the problems that currently appeared most pressing to top management. Too, there was little need at the time for many reports which clearly would be required later—for example, marketing reports and administrative cost reports. The size of the market for several years after the War was determined by material availability rather than by product appeal or merchandising acumen; administrative costs at the time were more a function of the Company's ability to recruit needed management talent than the dexterity of organizational units to apply Parkinson's Law.

The control of manufacturing costs, on the

MR. MILLER is Controller of the Ford Motor Company.

other hand, afforded an immediate avenue to improved profits, for they were clearly out of line competitively. Our experience in developing control of these costs is illustrative of the general approach. Initially, reports given to top management were keyed simply to man-count standards. As has been said, with a shade of wisdom, "All costs walk in on two feet." More sophisticated labor and overhead objectives were rapidly developed, for the most part from inter-plant comparisons and the use of a "best methods" approach. In a short time, reports were developed into a Company-wide system that, with few changes, has since provided generally effective control of the manufacturing costs the Company is in a position to control.

Throughout the development of manufacturing cost controls, top management met regularly with key production supervision. Summaries of the formal reports of cost performance were reviewed, with particular emphasis on comparisons among operations. Competition on the basis of both absolute cost levels and improvement in performance was encouraged, and superior performances were given recognition. Management recognized that so-called "labor productivity" is really "management productivity," and the meetings stressed possible management actions to reduce costs. Company-wide communication of top management's objectives was achieved by having the supervisors who attended these meetings hold similar meetings with their lower level supervision in the plants.

As manufacturing costs began to show encouraging declines, attention was directed to the next most pressing problem of top management, the control of costs designed into the product by stylists and engineers. Reporting in this field strikes at the root of cost: the design of the product governs not only the labor and material in its manufacture but the facilities, tooling and processing that determine its ultimate total cost.

There followed other cost controls, including an effective purchased material program based on indices of controllable and non-controllable changes in material prices. Priorities on programs to control other specific costs were established, and within a relatively short period, a well-rounded cost control system was in operation.

In the early post-war years, top management was not, of course, concerned exclusively with cost problems, nor was our reporting. Government controls on prices and materials, for example, created special reporting difficulties. Very early, price studies (projections of unit revenues, costs, profits and returns on investment) were prepared for use of top management in considering pricing policies. Actual results were then compared with projections.

Much of management's attention was directed at heavy post-war facilities and special tooling programs. Capital budgets furnished controls during periods of expenditure; after construction, there were periodic reports on actual compared with projected returns.

Cash budgeting, inventory control and other reports on assets were introduced in 1946 and refined as we gained experience.

Throughout the development of reports in these various areas, we kept in mind our goal of an integrated formal reporting system. Reports in each important section of decision-making were related to other sections. Although development of the system is, of course, a continuing process, synthesis came with the introduction of profit center reporting.

PROFIT CENTER REPORTING

Matching the post-war evolution in the Company's organization was the evolution in its reporting. With the decentralization of operations into semi-autonomous divisions, profit reporting by operation was introduced. This meant not only a change in the measurement from a standard of cost performance to a standard of return-on-assets, but a sharp

change in the philosophy and methods of divisional management. For this reason, profit center reporting is discussed in some detail.

Because of our unusual, and sometimes unique, problems, the system devised for reporting by profit center had to be largely original. Experiences of other companies were of little value. Unlike many decentralized companies, Ford was not a complex of smaller companies acquired by purchase or merger. We knew of no precedent for meeting the complicated problem of pricing hundreds of our products that had never been purchased outside and never priced. Further, not only were most of our divisions dissimilar to one another, but also no one of them was directly comparable to outside competitors on which we could obtain data. Consequently, there were difficulties in comparing their earnings performances directly with each other or with outside firms.

Lacking precise yardsticks for measuring our operations, management had to develop objective returns on assets by a combination of factors, some of them subjective. Divisional management participated in the development of these objectives so that there would be a clear understanding in advance of the exact basis on which the operation's performance would be measured. The objectives developed were approved by top management to serve as goals for long-run profit improvement programs in each operation of the Company.

The present procedure is for each divisional manager to give to the President and to the Chairman of the Board at the beginning of each year, an up-to-date review of his profit improvement program. The review includes a discussion of results to date and of management actions necessary to achieve the objective profits at a specific future date.

The profit improvement programs are long-run but they include a profit budget for the coming year, with standardized schedules of revenues, costs, profits and assets. This short-run annual profit budget is evaluated in terms

of the longer-run program. If approved, it is the basis for measuring the Division's performance in the year ahead.

These profit reviews provide a means of assessing the ability of operating executives to plan as well as to execute. The reviews also enable the President and the Chairman to participate directly in the plans of each operating division.

With the initiation of the profit reporting system, all revenue, cost and asset control programs were integrated into return-on-investment reports. Summaries by operation are given to top management monthly, with emphasis on the particular revenue, cost or asset factors that explain any variance from objective. These over-all reports provide a safeguard against a common tendency to overstress costs at the expense of other factors influencing return on investment, such as market performance, product plans, and facilities and tools.

Although our formal reporting system to top management is keyed consistently to the profitability of the company's various units, reports going to top officials vary from time to time. As marketing factors grow more significant, there is greater emphasis on day-to-day reports on sales, on shifts in sales among products of differing degrees of profitability, and on our competitive position. At the start of new model or new plant production, reports of launching costs are emphasized. Our formal reports (regularly scheduled reports) in these areas are created to serve a need; they have a lifespan corresponding to that need.

This does not mean that all our reports are read and given consideration at top levels. Many reports deserve only occasional attention. At the risk of being heretical, we often find such "dead end" reports useful; in many instances, the fact of their preparation forces subordinates to review periodically elements of the business that might otherwise be neglected.

Probably we make use of special reports

outside the formal reporting system more than most companies. One danger in such informal reporting is that only problems of immediate urgency will be considered, while other problems will be forgotten until they become urgent. Our system of formal reports assures, however, that all facets of the business are given consideration. It provides the general intelligence for our executives in their day-to-day operations.

We make very little use of the conventional financial statements, the balance sheet and the operating statement, in reporting to top management. These reports serve a useful purpose in summarizing the Company's current financial position, but they fail to answer the questions: "Why are we where we are?" or "Where are we headed?" We have found that the Monthly Financial Review, described below, best suits the Company's need for interpretive reporting.

THE MONTHLY FINANCIAL REVIEW

The keystone of our formal reporting to top management is the Monthly Financial Review. The Review is an analytical summary of the Company's performance and problems.

The Financial Review's primary value to management is that it compiles in a single summary the important current and projected factors in the operation of the business. It is, in effect, a distillation of our whole formal and informal reporting system. It gives top management a look at the Company in a perspective not easily and quickly extracted from other reports.

Each Review is different, but all have summaries of the Company's market, profit and cash positions. The market section is concerned principally with the sales performance of the Company's products. It may include, for example, data, actual and projected, of retail deliveries, production, price position, dealer stocks, and other market factors. Comparisons with competition and with internal objectives

are employed. When appropriate, the section is preceded by a summary analysis of general conditions in the economy.

The profit section is concerned principally with analyzing the Company's and the divisions' profit performances, compared with internal objectives and with competition. The emphasis given to revenue, cost or asset factors in any particular Review depends upon their weight in determining changes in current or projected profits. Both progress and regress are covered.

The Review is presented by the Vice-President—Finance. Slides of charts and tables are used in the oral presentation. Graphics and text are available in printed form. The Review is designed to be given in 45–60 minutes, excluding discussion time.

The Review is presented to the President, the Chairman of the Board, and all staff and divisional heads the day before the monthly meeting of the Board of Directors. During the Review, questions and discussion are encouraged. The result is usually a stimulating airing of the Company's current problems, with a vigorous exchange of views and suggested solutions.

In the Directors' Meeting, the review of divisional operations is less detailed, and material of special interest to the Board is added. Prior to discussion of dividend policy, for example, a detailed cash report is included in the Review.

Each of the operating divisions has a similar review of its performance and problems for its divisional management. These reviews are designed to stimulate profit consciousness at all levels of supervision. Our goal is to make virtually automatic the questioning of each important operating decision in terms of its profit potential.

REPORTING TO COMMITTEES

In Ford Motor Company, central committees establish policies and review the day-

to-day problems of the Company. Responsibilities of particular committees cover, for example, product planning, styling, scheduling, engineering research programs, merchandising, and appropriations. The committees consist of top management personnel, both staff and operating.

A large part of our special, informal reporting is made directly to these committees. Meetings are scheduled regularly; committees have permanent secretaries; agenda are distributed in advance; and reports to be presented are based on well-defined ground rules and coordinated before the meetings. A brief description of the relationship of reporting to two of these committees may illustrate the procedure.

One of our committees considers the Company's forward product programs. Procedures have been established to cover the form and content of financial projections to be shown the committee and the subsequent reporting of financial results. As a part of our formal reporting, operating divisions submit monthly reports of current projections compared with those at the time of product approval. These reports include product line profits, rates of return, and supporting detail such as tooling expenditures. The general status of product programs is reviewed periodically and special reports are submitted if it appears that a program is falling short of its financial objective.

Unfortunately, the forward product reports cannot measure the styling and merchandising appeal of the product under consideration. A program may be on target in terms of financial objectives throughout its planning but fail to obtain the anticipated market acceptance. Nevertheless, effective financial controls on design can insure that the product will not be designed so expensively that it will fail to earn a profit at reasonable volume expectations.

Another committee meets each month to consider vehicle production schedules. The agenda, the proposals of the Company's divisions, and the general industry forecast are coordinated

before the meeting. Data to be presented are developed on the same ground rules as in the formal reports on scheduling matters. In the meeting, the committee reviews first the current outlook for industry sales and production to establish the framework within which the committee can evaluate specific scheduling proposals. As each schedule is presented by the appropriate division, the principal marketing and production factors that affect it are presented and discussed.

The role of staff work for any of our committees is to obtain agreement on general assumptions and to give direction, through the reports presented, to the discussion of necessary action, including the determination that action is required. Through the establishment of ground rules and prior coordination, the committee is less likely to be plagued by what have been aptly termed "unfacts." Reports to the committees usually include recommendations, and often a discussion of possible alternative solutions to the problems raised. Every effort is made to supply all the data necessary for a decision, but not to usurp management's prerogative to make the decision.

In addition to the committee work, our informal reports include analyses made directly for top management. In these reports, there is a wide variation in the form of reporting, depending upon the preferences of the recipient. Some of our officials prefer to work directly with tabulations of data and to develop their own conclusions; others prefer an analysis of the data, with possible conclusions.

REPORTING ON THE REPORTERS

Particularly because of our emphasis on special reports for special problems, Ford's reporting system is changing constantly. We try to avoid in our planning of reports what we try to avoid in our planning generally: the tendency to think that what applies today is necessarily going to be valid tomorrow. Even our formal reports are altered frequently as the

problems of business shift. All reports are reviewed periodically to determine their need, their adequacy, and their cost.

This last point is an important one in a company the size of ours. Reporting is expensive, and every effort is made to keep reporting costs low. Professional reporters may very well lack cost consciousness in their own activities. They are not, for example, immune to the "brochure" virus, although we often point out that we have discovered a striking inverse relationship between the costliness of the report cover and the intellectual value of its contents.

To make sure that our reporting system is kept integrated, that it is adapted to changing problems, that we are not "over-controlling," and that the costs of the system are reasonable, we have assigned these responsibilities to a special, small department. The group includes people who understand the principles of financial control and the requirements of top management reporting.

The department is not a "reports control" activity in the sense that it engages in methods analyses of reports and procedures. Its concern is primarily with the functional aspects of reports and their value in the reporting system. The department's recommendations may involve an entirely new reporting approach or a realignment of responsibilities in recognition of changed conditions. The department studies, for example, possible computer applications to reporting problems in such areas as forecasting, and developments in such esoteric fields as information theory.

We have found that our modest investment in reporting on the reporters has been repaid many times.

EXECUTIVE DEVELOPMENT THROUGH REPORTING

One aspect of business reporting often overlooked is its relationship to executive development. In most businesses, particularly those expanding rapidly, the shortage of potential

executives is acute. This is especially true where demand for managers is large, as in a decentralized business. Although a great many executive development programs have been established in recent years, business may be overlooking an effective device for such development—its reporting system.

At Ford, both the committee work and the Financial Reviews are designed to serve this function. The special committee reports, usually presented by the person who prepared the analysis, allow the individual to demonstrate his ability to present the report and to answer questions about it. Knowing that he will have an opportunity to present his conclusions develops in the young analyst initiative and creative intuition, and affords him personal satisfaction. It introduces him to top management, and provides an opportunity to observe management in action. Further, the coordination entailed in most of our reports gives him the chance to discuss a problem in many of its facets with a wide variety of technicians and analysts, as well as with top staff and operating personnel. These opportunities are available to both central staff and divisional staff personnel.

More broadly, this personnel development is not restricted to reporting people. A good control system is likely to develop good managers in any area. The reporting system's emphasis on perceiving problems and relationships and on solving those problems is applicable to all but routine work in many operating and planning fields.

CRITERIA OF EFFECTIVE REPORTING

The description of how Ford's management operates in making its decisions and the relationship of our reporting system to these methods probably illustrate our criteria of an effective reporting system to top management. Although we have not formulated a set of such criteria, we do have certain ones in mind:

Data should be designed to improve the

quality of business decisions. This implies, wherever possible, showing advantages and disadvantages of alternative courses of action, all profit-oriented.

Data should be limited to subjects properly the responsibility of top management. The important should be differentiated from the unimportant.

Reports should emphasize "reasons why," not just "how much." They should evaluate rather than describe. Objective yardsticks should be used wherever applicable.

Approximations, even guesses, if clearly labeled, may be useful. Assumptions of the estimates should be included. Management need not accept the estimates but it is entitled to an informed opinion by a presumed expert. Analysis of errors in projections may be useful in improving techniques.

Information should be presented objectively, with interpretation as free as possible from bias. It is difficult to over-emphasize the importance of integrity throughout the reporting system.

Reports, recurring and special, should be simple and easily understood. They should be prepared in accordance with precise terminology and accepted ground rules. It is important that there be prior clearance of data so that those affected have an opportunity to offer suggestions.

Our own reports do not always meet these criteria. We know that the Ford reporting system is far from perfect. We find instances of duplication, omission, conflict and error. We worry about these deficiencies, and we try to correct them.

We also know, however, that our reporting system reasonably fulfills our principal objective. Our formal reporting system provides the factual background for management. Specific information on a specific subject is usually ready at the time and place management expects to evaluate a particular issue. In highlighting problems and possible solutions, the information is arranged in a form that readily enables management to *decide* and *act*.

"To the degree that education and other community activities contribute to the success of the Company and the society in which it operates, they should and do receive a share of the proceeds."

Ralph J. Cordiner, *New Frontiers for Professional Managers*.

RICHARD EELLS

Corporate Giving: Theory and Policy

- *The corporation is miscast in the role of philanthropist.*
- *The business objectives of a company should govern its giving to educational, scientific, and charitable activities.*
- *Here are prudent investment principles to guide such giving.*

American business corporations contribute about a half-billion dollars every year to philanthropic, educational, scientific, cultural, and civic organizations (see Table I). In numerous companies, large and small, corporate giving is established practice throughout the United States. Yet a well-reasoned basis for this aspect of corporate work is still lacking—and let there be no doubt that it does involve a new and specialized kind of managerial function. Like other functional kinds of work corporate giving demands for its effective prosecution a sound theoretical basis. This paper questions the illusory view now widely current that this is philanthropic work and proposes instead that corporate giving has a prudential premise. Indeed, the thesis of this paper is that the prudential ideal should replace the philanthropic illusion in policies and programs for corporate giving.

We are not concerned here with the legal question of corporate authority to make philanthropic contributions. The scope of managerial discretion in corporate giving has been notably widened as a result of the Smith Case,¹ though with what specific effect in a given jurisdiction only the lawyers can say. But for the lay public and for corporate managers generally, the impact of the decision in New Jersey has been remarkable. It has encouraged many companies to think more boldly about their corporate giving programs. It has also

¹ *A. P. Smith Manufacturing Co. v. Barlow et al.*, 26 N. J. Super. 106 (1953); affirmed 98 Atl. (2d) 581; appeal to the U. S. Supreme Court dismissed for want of a substantial federal question, 346 U.S. 861 (1953). With respect to a contribution to Princeton University by the A. P. Smith Manufacturing Company, the Supreme Court of New Jersey held that "...such expenditures may...readily be justified as being for the benefit of the corporation; indeed, if need be the matter may be viewed strictly in terms of actual survival of the corporation in a free enterprise system..."

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TABLE I

AMOUNT OF CORPORATE CONTRIBUTIONS, 1936-1957
In Dollars and as Per Cents of Net Profit before Taxes, and of Gross National Product
Sources: U. S. Treasury Department, Department of Commerce, The National Industrial Conference Board

Year	Net Profit Before Taxes \$ millions	Gross National Product \$ billions	Contributions		
			Contributions \$ millions	% of Net Profit	% of Gross National Product
1936	7 771	82.5	30	0.39	.00036
1937	7 830	90.2	33	0.42	.00037
1938	4 131	84.7	27	0.66	.00032
1939	7 178	91.1	31	0.43	.00034
1940	9 348	101.4	38	0.41	.00038
1941	16 675	125.8	58	0.35	.00046
1942	23 389	161.6	98	0.42	.00061
1943	28 126	194.3	159	0.57	.00082
1944	26 547	211.4	234	0.88	.00107
1945	21 345	213.6	266	1.24	.00125
1946	25 399	209.2	214	0.84	.00102
1947	31 615	232.2	241	0.76	.00104
1948	34 588	257.3	239	0.69	.00093
1949	28 387	257.3	223	0.78	.00087
1950	42 613	285.1	252	0.50	.00088
1951	43 495	328.2	341	0.78	.00104
1952	38 735	345.4	399	1.03	.00116
1953 ¹	39 801	363.2	495	1.24	.00136
1954	36 538 ²	361.2	311	0.85	.00086
1955	47 949 ²	391.7	415 ³	0.87	.00106
1956		414.7	510 ³		.00123
1957		431.3	520 ⁴		.00121

¹ Final year of Excess Profits Tax.

² Preliminary.

³ Estimate by F. Emerson Andrews, Director, The Foundation Library Center.

⁴ Estimate by American Association of Fund-Raising Counsel.

raised the hopes of numberless applicants for corporate contributions. For those who must design the policies and plan the programs for corporate work in this field, the new trend presents new problems that lie more in the area of business philosophy than jurisprudence. For, granted that the discretionary power² of most

² Discretionary authority of boards to make gifts under common law rules and permissive legislation is to be distinguished from allowability of deductions from net income for tax purposes. Since 1936, federal tax policy has encouraged corporate giving by allow-

ing as deductions charitable contributions (as defined in the Code) which do not exceed 5 per cent of the corporation's taxable income [Section 170 of the Internal Revenue Code, 1954.] Corporate contributions under this provision have seldom exceeded one per cent of net corporate earnings for the country as a whole, and the average for large corporations is probably well below this figure. Many of the smaller corporations contribute a higher percentage of their net incomes, and some want Congress to increase the allowable deduction to more than 5 per cent. See F. Emerson Andrews, *Corporation Giving* (New York: Russell Sage Foundation, 1952) ch. iii; and *Corporate Giving in Greater Cleveland: A Survey by the Harvard Business School Club of Cleveland, Inc.* (1953).

corporate boards is fairly wide, how will this discretionary power be used? Can one find a sound basis in theory for the kinds of policies and programs that will command the respect of all the groups of interests that focus upon the large industrial corporation?

We are in the midst of a testing period. The next ten years will show whether corporate authority to support charitable, educational, and like causes is to be used wisely or unwisely. The ultimate test of this wisdom, or the lack of it, will come in many forms of public opinion.³ Diverse groups will be watching the outcome. Share-owners, the financial community, customers, unions, employees, competitors, and suppliers will all be looking for the results as these affect their interests in particular corporations. The general public will want to know the consequences for the economy and for society at large. And not least, Congress and certain of the federal administrative agencies may be expected to monitor the trends of corporate giving.

Public reaction to the growth of corporate giving over the past two decades has been, on the whole, favorable, so far as one can judge, although a few dissenting voices have been raised here and there. Will the favorable trend continue? The answer will depend to a large extent upon whether corporations steer their contributions policies and programs along the mainstream of American life, with foresight and vision on the part of managers concerning the kind of social environment to which their fellow Americans aspire. The modern corporation can fulfill its role in such a way as to remain well within the bounds of the Good Society, as people generally envision it, and can, moreover, be a major contributor to the goals of that society. Or it can steer a different course, and find itself well without the bounds.

³ My reasons for this conclusion are set out in *Corporation Giving in a Free Society* (New York: Harper & Brothers, 1956), especially in chapters iv and viii.

NEED FOR PLANNING AND THEORY

If the testing period we are now in is to end successfully, careful planning will have to go into the management of corporate payments under the head of corporate giving. And behind this planning—if it is to work out well—we shall need a viable theory. The theory of corporate giving will have to be more than a lawyer's brief, for it will not be enough merely to establish the necessary authority. It will also have to be more than a smooth rationale to soothe the conscience of those who doubt that the authority ought to be used, whatever the courts say about the matter. It will have to be a theory that takes into account the actualities of business enterprise in corporate form and of the economic and social conditions in the environs of the enterprise. The theory has to be usable as a basis for both short- and long-range planning in individual companies: a set of logically related and realistic propositions.

Such a theory is not easy to develop, and I make no claim that it is developed fully here. Fortunately, in several companies work is going on at staff levels to build a sound theory. With more experience in actual cases, we shall all be able to contribute to this important project. As my small contribution to the process, I should like first to set forth two conflicting approaches to the problem, discussing in turn what I shall call the "philanthropic illusion," and then the prudential ideal. At the end of the paper I propose a set of principles which seem to me to be fundamental to the development of a sound theory.

THE PHILANTHROPIC ILLUSION

The first obstacle to sound theory and planning is the illusion that corporate giving can be regarded as essentially a *philanthropic* activity.

The philanthropic spirit is one of the noblest qualities of civilized man. It is the spirit of active good will toward one's fellow man, demonstrated by material efforts to promote

his welfare in body and soul. This spirit will always be praised by men of good will.

We need to observe, however, that if corporate giving were to become a really philanthropic act, we then should try to base the theory of corporate giving on philanthropic philosophy. On this assumption we should try to find legal support for the power of boards of directors to give away corporate monies to promote human welfare without concern for corporate self-interest. We should then look to the patriarch foundations, which have been in the business of giving for a long time, for guiding principles in working out and finding the most worthy causes to support. Grounding our corporate giving work on the idea of general philanthropy, we would develop a set of philanthropic principles and find out how to apply them in the management of the enterprise. In short, for a theory based on a strictly philanthropic premise, we should have to go about it in a systematic way to learn how to be most generous in helping along our fellow men with a substantial flow of corporate funds allocated for exclusively charitable purposes.

Critics of Big Business have condemned corporations for their "excessive materialism," their "irresponsible individualism," and their "baneful and inhuman" effects upon civilized society. Under the philanthropic theory, management would set forth in earnest to demonstrate that the corporation is neither heartless nor soulless. Through philanthropy corporations would show the world that they are "good citizens," strongly disposed toward charitable action. Corporations are already major supporters of community fund drives.⁴ Recently they have generously stepped into the breach for the private colleges and universities.⁵ They might greatly expand the range of possible

donees, and "give until it hurts." In this fashion the business community might shoulder the financial burden of charity as one of the corporation's major "social responsibilities."

In this way all might hope to stem the tide of criticism against Big Business. Nor would this be merely a public relations stunt. Industry would in fact as well as in theory assume the role of a major philanthropist in the American scene.

However, it is my position that it is futile, dangerous, and unnecessary for business to attempt such a role. It is futile, because corporate managements will find it impossible to sustain the purely charitable act, given the complex forces that actually determine corporate policies. It is dangerous, because it starts from false premises and will lead toward decisions that will be to the interest neither of the corporation itself nor of the society generally. It is unnecessary, because, with a better set of principles, the objectives appropriate to business enterprise can be achieved through corporate support payments.

For these reasons, the term used here, "corporate support payments," is preferable to designations more generally used, such as "corporate philanthropy" and "corporate giving." The term "corporate support payments" carries with it a certain prudential realism.

It is well to remember that the business corporation is not an individual human being. It is an entity with a corpus of collective assets entrusted to a board. A corporation's board of directors is bound to act in a fiduciary capacity. Corporate executives are agents of the board. When corporate funds are properly disbursed to charitable organizations, directors and managers necessarily act in their official capacities, and not as private citizens merely. They are bound to act on behalf of the interests they represent. They are also bound to act with certain objectives in view. These objectives are not the personal and private aspirations of

⁴ See F. Emerson Andrews, *Philanthropic Giving* (New York: Russell Sage Foundation, 1950) pp. 64-68; and *Corporation Giving* (cited in Note 2) pp. 64-71 and ch. ix, and especially Table 26.

⁵ For details see publications by the Council for Financial Aid to Education, Inc., 6 East 45th Street, New York 17, N.Y.

directors and managers as persons. The objectives of corporate action are the business objectives of the enterprise.

It would be hard to maintain that philanthropy is the business of an industrial company. Philanthropy is properly the business of philanthropic foundations. But it must be kept in mind that when the chips are down, corporate support payments by industrial companies, though necessary and legitimate parts of corporate work, are nevertheless in an economic sense a peripheral aspect of business management.

An objection may, perhaps, be raised. Is charitableness not a quality that we have a right to expect in the good "corporate citizen" as well as in the good *individual* citizen? Is philanthropy not really one of the corporation's "social responsibilities"?

This is not the place to put under the microscope the concepts of corporate citizenship and corporate social responsibilities. But it is pertinent to enter strong reservations when these concepts are put forth as major premises in a theory of corporate support payments. One may imagine at this point that I am about to draw the hard-boiled conclusion that corporate giving should be stopped altogether, that management should concentrate solely upon maximizing corporate profits, and that all disbursements from corporate earnings for philanthropic purposes should be left to the individual decisions of shareowners (from their dividends) and employees (from their individual compensations). This is the position taken by some people.⁶ They believe that corporate giving is a "fine thing"—for any company whose stock they do not hold. They protest that corporate giving tends to convert

the corporation into a great collection agency which supports charitable organizations through a kind of indirect tax on customers, employees, and shareowners.

This is decidedly not my position. On the contrary, most corporations have only begun to do what they ought to do in the area of corporate support payments. One difficulty with the philanthropic theory of such payments is that it may actually limit too narrowly the scope of business planning in the area. It can also lead corporations to support the wrong things under the illusion that they have some vague and undefined "social responsibility" to act like "good corporate citizens." There is little question that some important opportunities, both to strengthen the essential conditions for corporate survival and to provide opportunities for better profits in the future, will be missed—if business continues to talk as though it has *philanthropic* obligations primarily.

And, more positively, if we discard the philanthropic illusion, we shall be in a better position to reach two sound aims: first, the prudent use of corporate assets for long-range investments of great value to the company and all of the interests it represents; and second, general public recognition of the fact that Big Business is really meeting the obligations that can justifiably be expected of it. When this proposition is accepted, we shall all become more aware of a new range of corporation giving opportunities, in some cases of new programs, new program emphasis, and new techniques.

THE PRUDENTIAL IDEAL

These aims can be realized far better under a theory of prudential investment than under a theory of philanthropic giving. Put briefly, this theory of prudential investment asserts that payments out of corporate funds for educational, scientific, and charitable purposes, and to professional and civic organizations, should

⁶ See, for example, Louis O. Kelso and Mortimer J. Adler, *The Capitalist Manifesto* (New York: Random House, 1958); and remarks of Professor Milton Friedman, University of Chicago, as reported in the Social Science Reporter's *Eighth Social Science Seminar on the Major Factors in Business Management: Leadership, Decision-Making, and Social Responsibility*, San Francisco, March 19, 1958.

all be regarded as a part of the work of prudent management of the enterprise as a *business*. Such payments may be "gifts" for the purpose of tax deduction, but for the business manager they must be treated as a species of investment.⁷ And in making wise investments of these funds, which are entrusted to management, the same degree of care in planning and organizing is to be expected as in any other kind of functional work in the company.

Ideally, a company will have a written policy governing its corporate support payments that sets forth explicitly the basic principles involved. These principles should reflect a philosophy of enlightened self-interest. They should make it abundantly clear to everyone, within and without the company, that every corporate support payment is to be evaluated as a wise investment of corporate assets.⁸

Such a policy is difficult to draft. On the one hand, it can easily become a mere rationalization for concessions to external pressures; it can convey the impression that it accedes to public demands on its reservoir of earnings; it can just "go along" on the tacit assumption that it will lose good will if it does not "go along." On the other hand, the policy statement may bog down in language that promises more than can be delivered; and this is a special danger when one begins with the premises of the philanthropic illusion of corporate support payments which were referred to earlier.

The only safe course is to relate the policy to the *specific business objectives of the company*, and to specify in some detail the ways in

which corporate support payments can be used as a prudent investment of corporate funds for the purpose of reaching these stated objectives. There are the long-term objectives of the corporation in relation to the industry, to the economy as a whole, and to the larger community it serves. There are also objectives concerning the improvement of the various functional types of work, such as manufacturing, marketing, finance, research and engineering, public and employee relations, and managing. Table II lists some hypothetical examples of how specific kinds of support payments might serve corporation policy objectives.

The policy should make it clear, furthermore, that corporate support payments are to be made with specific reference to such objectives and for no other purposes; that the benefits to be derived from such payments are benefits that will accrue to the corporation as well as the payees; and that benefits to the corporation sought by such payments will be those which could not be derived in any other way, or at least not so effectively in any other way.

The policy should lay down procedures which will make it possible to implement these principles. For example, let us suppose that a recommendation is to be made for board action (or action by officers under delegation of authority from the board) on a proposal for a corporate support payment—say for a contribution to a hospital capital fund drive. The recommendation should be accompanied by a carefully prepared statement setting forth the nature of the benefits reasonably to be expected as a result of the payment, and *also* a statement which indicates why this method, rather than some other method, should be adopted to achieve the expected results.

It would not be enough, on the prudential theory, simply to say that the company has a philanthropic responsibility to make the gift; or that it should meet a "quota" set up by the hospital drive administration; or that the gift will be a charitable bargain in view of the

⁷ Some theoretical legal problems may arise in explaining such a policy under the tax laws. However, if the policy is considered as the theoretical or philosophical rationale of the program and not as a literal statement of the purpose of any gift in the tax law context, it is felt that such problems may be satisfactorily met.

⁸ McGraw-Hill Publishing Co. has set forth the arguments for corporate support of education in an interesting pamphlet entitled *A Business Wrestling with the Problem of Aid to Colleges and Universities: A More or Less Socratic Dialogue*.

TABLE II
KINDS OF CORPORATE SUPPORT PAYMENTS RELATED TO POLICY OBJECTIVES

Policy Area	Corporate Support Payments	Objectives
Community Relations	Community Chest contributions	Meet company responsibilities to plant communities
Engineering and Research	Endowment of professorships and scholarships at universities	Advancement of basic and technological research
Employee Relations	Grants to research clinics in social psychology and psychiatry	New methods of improving employee morale
Manufacturing	Experimental work in automation and industrial uses of atomic energy	New techniques in manufacturing
Marketing	Grants for international meetings of marketing specialists	Development of marketing in non-industrial areas
Public Relations	Adult Education programs. Publication of literature in social sciences	Better public understanding of role of corporate enterprise in a free society
Finance	Surveys of family income, savings, and investment in U. S.	Broaden the base of stock ownership

Revenue Code.⁹ These are hardly compelling reasons. Nor will it suffice to declare that the company's employees use the hospital's facilities. Payment for such services could be put on a contractual basis. If an outright grant is preferable, considering all the circumstances, these circumstances should be set forth.

For the purpose of managing rationally the work of corporate support payments, a set of principles is a necessity. A suggested list of such principles concludes this article. They may help us to resolve a number of questions about a support program, such as:

- In what *specific way* does each payment carry out the stated policy of the company? In other words, what one or more of the company's objectives does it propose to serve? What benefits to the company, direct or indirect, can reasonably be expected as a result of the payment?

⁹ "The [tax] exemption does not justify the gift. Quite the contrary, the gift justifies the exemption." Donald K. David, *Giving is Good Business*, address before the Chamber of Commerce of Greater Philadelphia, May 10, 1956.

- *Why* is it preferable to achieve the stated objective by means of the proposed payment instead of by some other means?
- What method is to be used to *follow up*, to ascertain the actual results? Are the benefits measured?¹⁰ What does a post-audit show as to its effectiveness in terms of the objectives originally sought?
- *To what extent*, year by year, is the corporate support program being conducted with due regard for proper emphasis on all the actual needs?

This last question refers to a balanced program. Balance cannot be achieved without planning, and planning, as noted above, requires a theory of action. If the theory were based upon philanthropic principles, balance

¹⁰ Estimates in qualitative and quantitative terms, as appropriate, of the benefits expected should be made at the time payments are made. It is doubtful that many companies require this. Fewer still, probably, require the manager or component responsible for the original recommendation of a payment to measure actual results against expectations. This should be done, even for long-range corporate support programs.

could be interpreted to mean an even distribution of gifts to all worthy causes: an impossible task. But if the theory is based on prudential grounds, very different considerations enter.

NEED FOR BALANCED PROGRAMMING

Balance, in the prudential sense, means at least three things: balanced promotion of all company objectives; balance in meeting the needs of the various company components; balance among the company's long- and short-range goals.

As to the first, *the allocation of funds among the more important company objectives*: a company must find a balance among such objectives as advancement of fundamental knowledge and skills vital to the enterprise, increasing the supply of educated and specialized manpower, developing the political and economic conditions under which the enterprise can flourish, increasing the market for the products, improving the technical facilities, augmenting the reservoir of equity capital, and so on.¹¹

Second, *in meeting the needs of the various components* of the company, one must see to it, for example, that the right to make recommendations and decisions as to corporate support payments is equitably distributed. The recommendations should come from many different points within the company.¹²

¹¹ See Table II, where the major functional kinds of work in a large industrial corporation are paralleled by specific examples of corporate support payments. Balance would not necessarily require implementation of every objective every year; but a schedule such as this would help to avoid imbalance over a period of years.

¹² The purpose of decentralizing decision-making in corporate support payment work is *not* to give everyone a fair shake in distributing largesse. Only through the collective experience of many different and responsible managers can a company hope to build up gradually a sound corporate support policy. Too great a centralization of this work deprives the company of the optimum use of one of its greatest resources: the accretions of managerial knowledge resulting from devolved authority and responsibility.

Third, management must provide a *balance between long- and short-range goals* of the company with due regard not only for immediate annual commitments (for example, community funds and recurrent drives), but also for the requirements of continuity and benefits accruable in five, ten, or twenty years.

A further word on balance, with particular reference to educational and scientific grants. Corporate support of education and science is undoubtedly a prudent investment of corporate assets, for reasons that have been abundantly supplied during the past few years. We must note, however, that even if the entire proceeds of corporate giving each year were used to meet the financial deficit in higher education, the colleges and universities would still not be out of the woods. Yet no large company can properly allocate its entire giving program to this purpose. To do so would be demonstrably a failure to achieve a balanced program. It would mean the abandonment of other objectives of such a program.

To sum up, then, planning corporate support payments requires a theory, one that combines a cultural ideal with a severely practical approach. It is impractical for business to attempt the philanthropic role as a purely charitable act. That role is too ambiguous and undefinable. Moreover, this strictly philanthropic approach encourages an avalanche of requests for aid that may engulf managers before they know what the aims of their corporate support policy should be.

The sounder approach is a prudential one. However, the meaning of this language should be clearly understood. A "prudential" policy does not imply an approach which "stacks the deck" in such a way as to give the corporation calculated advantage over individuals, or special groups, or the public at large. Rather, "prudential" means a blending of the corporate interest with the broader community interests—an identification of appropriate corporation objectives with national objectives

and with American idealism. Simply stated, when management disburses support payments for the long-range benefit of the enterprise, it also seeks long-range benefits to society generally. Thus, contributions would be made to the upbuilding of the many institutions around us that make up a free society, the only kind of society in which free corporate enterprise can flourish.

PRINCIPLES

A preliminary codification of the principles which should govern corporate support to educational, charitable, scientific, professional, and civic organizations is suggested below. This statement of principles does not reflect the specific policy of any particular company, but rather the viewpoint of the author as a result of having examined the rationale and practice of many of the country's largest industrial corporations. It is, of course, only a tentative statement; and I offer it here as a point of departure for more thorough explorations of the subject among academic and managerial groups.

1. Corporate giving for the advancement of education, science, and the professions, and for civic and charitable purposes, is governed by different principles than those which apply to individual philanthropy.

- 1a. Corporate payments for such purposes can be made only within the legal limits of corporate powers, whereas individual philanthropy has no such limitations. Corporate directors and managers, in making corporate support payments, act in a fiduciary capacity for the business enterprise, and not in their individual capacities as personal donors.
- 1b. While personal philanthropy is properly altruistic, corporate giving has to serve a dual purpose: it must meet the needs and interests of the corporate donor, as well as the needs of the society in which the company operates.

2. Corporate support payments should be related directly to the stated objectives of the company as a business enterprise.

- 2a. The company's objectives need to be stated in a form which makes it possible for management to test the appropriateness of a proposed payment.
- 2b. Recommendations for action on an application or proposal should spell out the *relationship* between the proposed payment and one or more of the company's objectives.
- 2c. The statement of recommendation should show either that the benefits to be derived can be gained in no other way (or not so effectively in any other way); or that there are other compelling reasons for using the corporate support payment method of reaching the named company objectives.
- 2d. The payments should be properly allocated so as to serve the company's objectives in a balanced way, avoiding undue emphasis upon some objectives to the neglect of others.

3. The stated objectives of the company should be broadly enough conceived, though specific in content, to recognize the public expectancies concerning the enterprise by reason of the character and scope of its operations.

- 3a. There are various groups that contribute to the survival and prosperity of the enterprise (its customers, its share-owners, its suppliers, and the public—including a far more comprehensive community than the local or plant communities in which it operates); and the stated objectives of the company should specify its relationships with all of these groups, making it clear what common interests need to be protected and preserved by corporate action.
- 3b. The statement of company objectives should make it clear that the common interests of the various groups with which the company maintains vital relationships can sometimes be protected and preserved through appropriate corporate support payments.

- 3c. Such payments are to be regarded as discretionary acts within the terms of corporate policy and not as obligatory charitable gifts; as such, they constitute legal and prudent means of maintaining vital relationships with these groups, and of recognizing public expectations that the company is fulfilling its role as a socially-oriented business institution.
4. *Corporate support payments are not justifiable in terms of the tax factor alone.*
 - 4a. The amounts, the timing, and the recipients of corporate support payments, are all necessary considerations in the prudent use of corporate assets as appropriate means of attaining company objectives, quite aside from tax-deductibility advantages.
 - 4b. A payment unrelated to the company's objectives, as an enterprise, is never desirable simply because it is a "charitable bargain" under the revenue laws.
5. *Periodic measurement and feedback to management of data concerning the actual benefits derived from corporate support payments is an indispensable part of efficient management of such programs.*
 - 5a. Measurement of indirect benefits, though frequently statable only in qualitative terms, is essential.
 - 5b. Indexes for measuring benefits should be related to certain standards of business performance that are implicit in company objectives, but which must be spelled out for managerial guidance.
- 5c. Measures of benefits should be used to improve the criteria for allocating payments, and for appropriate reporting to shareowners and the public.
6. *The management of corporate support payments is a specialized function that requires special organizational and procedural treatment within the company.*
 - 6a. In small companies the use of professional outside consultants and agencies may be indicated.
 - 6b. In larger companies, staff organizations for corporate support payment work are advisable, sometimes on both a centralized and decentralized basis, depending upon the organizational structure of the company.
 - 6c. As in all managerial work, adequate provision needs to be made for planning, organizing, integrating and measuring corporate support payment work, with full opportunity for operating managers to consult the staff organizations which specialize in corporate support work.
7. *When corporate support is used as a means to protect the company as a decision center by strengthening the free society of which it is a part, it should aim at widening rather than limiting the discretionary powers of those decision centers to which payments are directed.*
 - 7a. Payments to educational institutions should have the effect of buttressing their independence as centers of scientific work and teaching.

JOHN CLENDENIN

What Do Stockholders Like?

A significant change in attitude toward dividends and market gains is one of the trends revealed by this study of stockholders' opinions.

In these days of lengthening stockholder lists and increasing stockholder sophistication is a definite need for corporate management to know the nature of stockholder preferences and objectives. Not only the corporate peace but also the price of a company's stock and its capacity to sell additional stock depend on the stock's attractiveness to actual and potential stockholders. Company policies which will both please the stockholders and maximize long-term company welfare are eminently desirable, and such dual-purpose policies are often possible if the preferences of the stockholders are clearly understood.

This article reports the findings of two mail questionnaire surveys of stockholder preferences, the first undertaken in the summer of 1951 and the second in the late spring of 1958. The surveys were made under the auspices of the Bureau of Business and Economic Research of the University of California, Los Angeles, and the Los Angeles Division of Pacific Coast Stock Exchange. Mailing lists for both surveys, which were supplied by Dean Witter and Company and several corporations, are comparable in make-up. (The questionnaire and the results are summarized in Table I on pages 52-54 of this article.)

The questionnaires went to individual stockholders only—institutional investors, trustees, and nominees were not included. Both large and small stockholders were included, but the tallies indicate that small stockholders (those owning only one or two stocks) did not respond in as great proportion as did those owning more stocks. The questionnaires went to investors known to hold stocks in large and medium-size corporations; some of the known stocks are conservative and some are speculative, but it is probable that many of the stockholders who answered own both conservative and speculative issues. Of some 5,000 questionnaires mailed in 1951, 1,374 (26%) were returned;¹ in 1958, 891, or 29% of the 3,000 mailed, were returned. It should be noted, of course, that a survey of this kind, based on a mail questionnaire and dealing with abstract situations, of necessity measures general trends and attitudes of individual stockholders and should not be interpreted as an exact mathematical measurement.

CIRCUMSTANCES ALTER CASES

One of the most obvious facts emerging from

¹ The 1951 survey was analyzed in "Stockholder Preference," *Commercial and Financial Chronicle*, CLXXIV (August 2, 1951), 5034.

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these two surveys is that stockholders change their minds about the investment features which they seek. Back in 1951, with the uncertainties of depression and war still uppermost in their minds, stockholders expressed strong preferences for conservative stocks, cash dividends, and safety above all. In 1958, after seven years of prosperity and stock-market boom, a majority of the answers indicate a willingness to own speculative as well as conservative stocks, a less positive emphasis on cash dividends, and an interest in market profits which is almost as great as that in income and safety. Other differences between 1951 and 1958 also appear; but the important fact is that corporate managements wishing to please or attract stockholders will not find the same policies always preferred.

There is less difference between the preferences of small and large stockholders than might have been expected. Stockholders holding only one or two seem to seek somewhat lower priced stocks and to be more interested in market profits than the larger holders, but even these differences are not marked. All of the changes in attitude between the 1951 and 1958 surveys are apparent in both groups.

THE PRICE OF SHARES

The most popular prices for shares of stock lie between \$20 and \$50, according to the 1958 survey. Most stockholders would probably stretch this range in specific cases without much hesitation, and some 20 to 30 per cent of the respondents indicate that they have no price limitations, but it seems clear that prices within the \$20 to \$50 range conform to the tastes of nearly all individual investors, while those above and below these figures discourage a portion of the total potential market. Small stockholders prefer slightly lower priced stocks: from \$10 to \$35.²

² These figures conform very closely to preferences indicated by 5,425 readers of the New York Stock Exchange magazine, *The Exchange*, XIX, 6, (June, 1958).

In 1951, when the market averages stood at approximately half their present level, the stockholders indicated a preference for about the same price ranges, but put slightly more emphasis on prices below \$50 per share. It appears that the great rise in stock market price level since 1951 has not resulted in an appetite for higher-priced shares. Rather, it has generated a demand for stock splits which have held the per share prices down. This fact has seemingly been sensed by corporate directors. Despite the great market rise, the average price of a listed share on the New York Stock Exchange at the end of 1957 was \$42.70, as compared to \$41.75 in 1951.

These stockholder preferences do not mean that a well-established stock selling at \$90 per share is necessarily selling in a weak market because many potential stockholders refuse to consider \$90 stocks. The preferences indicated by the majority do not necessarily extend to all stockholders. For example, it is perfectly clear that many stockholders *do* consider \$90 stocks; and if such stocks are not too numerous, their market may be good. Furthermore, many stockholders who tell us that they normally select stocks priced in the \$20 to \$50 range are always ready to make exceptions. In fact, the 1951 survey showed positive preference for the \$20 to \$50 price range among the holders of a bank stock selling at \$140 and an oil stock selling at \$100, and both surveys elicited marginalia saying "except for A. T. & T."

Nevertheless, a management which feels a need to split a high-priced stock is almost certainly failing to maximize its market when it splits a \$150 stock on a 2-for-1 basis; on the other hand, there would seem to be little occasion to split any stock of reasonable quality into a price area below \$20. Although there *may* be prestige factors inherent in high-priced shares and marketability advantages in very low-priced ones, neither the replies of these shareholders nor my own observations of stock-price behavior lend much weight to these

possibilities. And even the high-quality stocks which command a substantial institutional market may enjoy an individual-holder demand as well, if they are made attractive to the individual market.

One more important factor suggests that a low per share price may attract a considerable group of investors. Approximately 32 per cent of all the 1958 replies, including 24 per cent of the small stockholders, indicated a "strong preference" for investment in 100-share lots. Since the "typical amount" invested in each stock ranges from less than \$1,000 by the small stockholders to around \$4,000 by the larger holders, it is clear that this preference for 100-share lots must inevitably lead to a search for acceptable stocks priced between \$10 and \$40 per share. It should be noted that this "round-lot" preference is stressed by less than one-third of the replying investors, but it is probably also considered by others. From this viewpoint it is clear that maximum market acceptability among individual stockholders would require a stock to be priced in the lower half of the \$20 to \$40 range previously indicated.

DIVIDEND PREFERENCES

The questions and answers on the subject of dividends give rise to three definite observations on preferences of individual stockholders: (1) they favor a "normal" or middle-of-the-road ratio of dividends to earnings, one which will reward the stockholder but also provide for company growth; (2) they place high emphasis on company growth and development, and in the main are willing to have dividend policy adapted to company financial needs; and (3) they approve a regular-plus or a cash-plus-stock dividend policy.

On the ever-interesting subject of dividend payout policy, approximately 58 per cent of the replying stockholders voted for a "normal" division of the earnings between dividends and reinvestment in the company. Many marginal notes on the questionnaires made clear, how-

ever, that retained earnings had to be retained for a useful purpose—idle hoarding was not favored. Very few stockholders asked for a maximum dividend payout. A startling 28 per cent of the replying stockholders, including 29 per cent of the small stockholders, advocated limiting dividends to a small percentage of the profits and using the balance for business expansion or debt reduction. As compared to the preferences expressed in 1951, the votes for a "normal" payout policy have declined from 70 per cent to 58 per cent of the total, and those for a low payout policy have increased from 16 per cent to 28 per cent. The reasons for this change appear to lie in a heightened interest in company expansion and stock value growth as well as in greater concern with income taxes.

I have found additional evidence on this change in stockholder attitude toward dividends in another study which I am now completing. This study examines the effect of dividend payout policy on stock price by comparing the price-earnings ratios of high-payout and low-payout stocks which are otherwise closely similar. The comparisons indicate that in the period 1940-1952 a stock paying out 70 per cent of earnings tended to sell at a price-earnings ratio between 79 per cent and 91 per cent higher than one paying out only 35 per cent of earnings. Thus, a theoretical doubling of the dividend tended to be accompanied by a 79 to 91 per cent increase in stock price. In the period 1953-1958 this emphasis on dividends declined considerably, so that a doubling of payout tended to be associated with an increase in price of only about 50 per cent; thus, the correlation of price with payout was less. I interpret this change to mean that seven years of business boom have caused investors to place more emphasis on business growth and to be less concerned with immediate cash salvage in the form of dividends. The growth of investment companies and pension funds has doubtless added to this long-term emphasis. How-

ever, this emphasis is probably to some extent cyclical; a serious economic recession might well restore the premium on high payout.

Despite these evidences of decreased stockholder emphasis on dividends, it is necessary to note that stocks paying out a high percentage of earnings in dividends still tend to sell much higher in relation to earnings than do similar stocks with low dividend payout. Dividends are obviously still in demand. I can interpret this inconsistency only by suggesting that stockholders who favor high payouts must be insistent upon choosing them, but that stockholders who advocate low payouts at least do not discriminate against high ones.

When asked to pass judgment upon the use of small annual stock dividends as a means of conserving cash for business expansion, 19 per cent of the stockholders advocated a normal cash dividend with no stock, 44 per cent favored a cash-plus-stock procedure, and 19 per cent preferred all stock. The responses of very small stockholders were almost evenly divided among these three options. These results are reasonably consistent with those obtained by Merrill Lynch, Pierce, Fenner & Smith in a 1958 mail survey of customers who had recently received stock dividends; these customers voted 56 per cent in favor of the cash-plus-stock policy and 21 per cent each for an all-cash or an all-stock policy.³ Those preferring cash-plus-stock or all-stock distributions indicated that income tax considerations were dominant among their reasons. However, the Merrill Lynch survey also noted a high interest in value appreciation and growth. This interest, in conjunction with the willingness expressed in my survey to accept normal or limited cash dividends in order to finance corporate growth out of earnings, suggests that the typical stockholder sees the cash-plus-stock dividend policy as a way to finance his company and at the

same time to permit a generous dividend—as a way to have his cake and eat it too. He probably understands the lack of logic here, but he still likes the idea.

I am not sure that individual stockholders would approve if a large number of important corporations reduced their cash payments and substituted small stock dividends, and I am fairly positive that many institutional holders would be dismayed; but when only a few of the firms whose stock they hold do this, the policy is popular with many stockholders. However, one reservation must be noted: a cash-plus-stock dividend policy would definitely displease some stockholders, and its inauguration might for a time drive away more than it would attract.

On the matter of dividend regularity, our stockholders were asked to choose among three systems: regular quarterly payments, modest regular payments plus extras as warranted, and irregular payments as warranted. The system of regular-plus-extra payments showed surprising popularity; it was the first choice of 44 per cent of the stockholders in both 1951 and 1958. A policy of regular payments attracted 44 per cent in 1951 and 37 per cent in 1958; irregular payments seemed best to 10 per cent in 1951 and 15 per cent in 1958. The prevailing tendency to recognize and cooperate with company financial operations is evident in the acceptance of a regular-plus-extra dividend system, and is confirmed by numerous marginal notes on our questionnaire form. However, I suspect that a considerable number of stockholders think that they might get a larger aggregate dividend if small regular payments were habitually supplemented by extras payable at convenient times, and endorse the system with this in mind.

RIGHTS ARE POPULAR

Rights to subscribe to new stock at prices below the market are overwhelmingly approved by all classes of individual stockhold-

³ This survey was reported in an undated mimeographed document entitled "Stock Dividends—Our Customers' Opinions," which was released by the firm about April 1, 1958.

ers. Small stockholders, whose tendency to allow rights to expire unused has worried many managers, are more emphatic in their approval than other classes. And a comparison of the 1951 data with those of 1958 indicates that rights are even more popular now than they were seven years ago. This enthusiasm for rights is probably not shared by all institutional and large-block holders, for obvious reasons, but it certainly pervades the rank and file.

I am slightly skeptical as to whether stockholders fully understand the nature of stock rights. They do understand that they obtain new stock at an attractive price without payment of commissions or other costs, but they probably do not understand that other methods of stock sale are usually less costly to the company. Certainly many of them do not understand that the value of the rights is to a degree subtracted from the value of the original stock, for many marginal notes on our questionnaire complain that rights are often of limited value because new stock offerings are priced too close to the market. But it is apparent that stockholders like to receive rights, regardless of whether they fully understand their implications or not.

STOCKHOLDER INVESTMENT POLICY

The questionnaire included choices designed to test stockholder attitudes on three additional matters, (1) income and safety versus appreciation as objectives, (2) willingness to acquire speculative stocks, and (3) the desire for diversification.

Insofar as income and safety versus appreciation are concerned, 38 per cent of the 1958 replies advanced income and safety as the primary objective, 30 per cent gave equal weight to income and safety and to market appreciation, and 32 per cent selected market appreciation as the primary goal. In 1951 the choices were 59 per cent for income and safety, 31 per cent for equal weight, and 10 per cent for mar-

ket appreciation as a first objective. The very great decline in emphasis on income and safety and the corresponding increase in desire for market gain is an ill omen for those interested in conservative and stable markets. However, some of the change is probably motivated by a desire to offset expected price-level inflation, and thus may not indicate an excessive disposition to speculate.

A disturbing confirmation of stockholder interest in market profits comes from the Merrill Lynch, Pierce, Fenner & Smith survey previously mentioned. In this case 4,329 stockholders were asked to designate a single primary investment objective by choosing among (1) safety of principal, (2) income, and (3) appreciation and growth. Seventy per cent chose appreciation and growth. This figure is slightly larger than the combined percentages in our survey of those who elected appreciation as a first choice and those who gave it equal weight with safety and income. It is thus clear that interest in market price appreciation is exceedingly widespread.

Stockholders in 1958 seem far more willing to own "speculative" stocks than they were in 1951. Although 54 per cent of those replying to the 1958 inquiry indicated that they would include speculative issues among their stocks, only 36 per cent acknowledged such an intent in 1951. In both years small stockholders announced more conservative policies than did the larger holders. I am not impressed with the statistical accuracy of these answers, for the words "conservative" and "speculative" vary in meaning from person to person and from time to time; but the increased interest of these stockholders in risk-taking and speculation—as *they* define these terms—in 1958 as compared to 1951 is an unmistakable shift in their attitudes.

The principle of diversification seems to be well established in most stockholders' minds. There were relatively few cases in which the holders of only a few stocks held them in blocks

TABLE 1
SURVEY ON STOCKHOLDER PREFERENCES
GENERAL SUMMARY

	1938 Replies Stockholders Owning:								1938 Total Replies		1931 Total Replies	
	1 or 2 stocks		3 to 5 stocks		6 to 15 stocks		Over 15 stocks		No.	Percent	No.	Percent
	No.	Percent	No.	Percent	No.	Percent	No.	Percent				
A. How many different common stock issues (different corporations) do you normally own at one time?	91		279		336		185		891		1374	
B. Which of these is closest to your usual reason for buying stocks?												
1. Primarily income and safety.	33	36.3	77	27.6	142	42.3	82	44.3	334	37.5	811	59.0
2. Income and gain equal.	19	20.8	85	30.5	96	28.6	63	34.0	263	29.5	426	31.0
3. Market gain primarily.	37	40.6	109	39.1	96	28.6	35	18.9	277	31.1	131	9.5
C. What kind of stock are you willing to buy?												
1. Nearly all conservative.	50	54.9	110	39.4	149	44.3	86	46.5	395	44.3	886	64.5
2. Some speculative also.	39	42.8	162	44.0	182	54.2	94	50.8	477	53.5	490	35.6
D. Are you willing to invest in odd lots (small numbers of shares), or do you strongly prefer 100-share lots?												
1. I try to select issues in which I can buy 100 shares.	22	24.2	82	29.4	111	33.0	72	38.9	287	32.2	390	28.4
2. Either way is acceptable.	64	70.3	191	68.5	214	63.7	106	57.3	575	64.5	886	64.5
3. No policy.	5	5.5	13	4.6	9	2.7	3	1.6	30	3.4	67	4.8
E. In choosing common stocks from a list of equally "good buys," what would be the <i>highest</i> and <i>lowest</i> prices you would consider suitable for yourself; Mark two—your usual upper and lower limits.												
Lowest												
No opinion.	16	17.6	35	12.5	49	14.6	30	16.2	130	14.6	234	17.0
No lower limit.	10	10.9	62	22.2	60	17.8	30	16.2	162	18.2	150	10.9
\$1 per share.	12	13.2	27	9.7	17	5.0	7	3.8	63	7.1	61	4.4
\$5 per share.	18	19.8	79	28.3	37	11.0	20	10.8	154	17.3	159	11.5
\$10 per share.	19	20.8	52	18.6	72	21.4	36	19.5	179	20.1	356	25.9
\$20 per share.	6	6.6	48	17.2	63	18.7	45	24.3	162	18.2	274	19.9
Above \$20 per share.	6	6.6	12	4.3	30	8.9	43	23.8	62	7.1	108	7.9
H. <i>Best</i>												
Below \$20 per share.	5	5.5	3	1.1	3	0.9	0	0	11	1.2	11	0.8
\$20 per share.	9	9.9	21	7.5	13	3.8	2	1.1	45	5.0	64	4.6
\$35 per share.	13	14.3	38	13.6	24	7.1	11	5.9	86	9.6	158	11.5

\$5 per share.....	18	19.8	79	28.3	37	11.0	20	10.8	154	17.3	159	11.5
\$10 per share.....	19	20.8	52	18.6	72	21.4	36	19.5	179	20.1	356	25.9
\$20 per share.....	6	6.6	48	17.2	63	18.7	43	27.3	162	18.2	774	19.9
Above \$20 per share.....	5	5.5	3	1.1	3	0.9	0	0	11	1.2	11	0.8
H. best												
Below \$20 per share.....	5	5.5	3	1.1	3	0.9	0	0	11	1.2	11	0.8
\$20 per share.....	9	9.9	21	7.5	13	3.8	2	1.1	45	5.0	64	4.6
\$35 per share.....	13	14.3	38	13.6	24	7.1	11	5.9	86	9.6	158	11.5
\$50 per share.....	25	27.5	78	27.9	89	26.5	42	22.7	234	26.3	317	23.1
\$75 per share.....	5	5.5	40	14.3	55	16.4	31	16.7	131	14.7	189	13.7
\$100 per share.....	9	9.9	25	8.9	45	13.4	24	12.9	103	11.6	250	18.2
\$200 per share.....	2	2.2	13	4.6	15	4.5	15	8.1	45	5.0	36	2.6
No upper limit.....	7	7.7	21	7.5	38	11.3	26	14.0	92	10.3	90	6.5
No opinion.....	16	17.6	35	12.5	49	14.6	30	16.2	130	14.6	234	17.0

F. If you were choosing between two stocks which sold at the same price and which appeared equally safe and promising, but one of them earned profits of 10% and paid you 5% in dividends, while the other earned only 8½% but paid out 6½% to its stockholders, and it appeared that no dividend changes were likely for at least two years, which would you buy?

1. The one earning the most.....
2. The one paying the most.....
3. No opinion.....

G. Which cash dividend policy would you wish your company to follow, assuming that it is able to choose any one of these?

1. Pay out most of earnings.....
2. Pay normal dividends, reinvest the balance.....
3. Limit dividends, expand the business.....
4. No opinion.....

H. Which type of cash dividend program do you wish your companies to follow?

1. Regular periodic payments.....
2. Modest regular dividend plus extras as warranted.....
3. Irregular, as warranted.....
4. No opinion.....

I. As a stockholder, do you like to receive "rights" (to subscribe at less than the market price) when your companies sell additional stock?

1. Approve.....
2. Approve if added investment not over 15%.....
3. Disapprove.....
4. No opinion.....

Note: Totals vary because not all respondents answered all questions. The optional answers on the questionnaire form were more complete than the condensed phrases shown here, to assure a clear understanding.

TABLE 1—Continued

	1958 Replies Stockholders Owning:								1958 Total Replies		1951 Total Replies	
	1 or 2 stocks		3 to 5 stocks		6 to 15 stocks		Over 15 stocks		No.	Percent	No.	Percent
	No.	Percent	No.	Percent	No.	Percent	No.	Percent				
J. Do you approve of small annual stock dividends and reduced cash payments when your company can use its money for profitable expansion?												
1. No, prefer cash dividends.....	17	18.7	49	17.6	66	19.6	40	21.6	172	19.3	NA	
2. Yes, approve this.....	24	26.4	108	38.7	170	50.6	91	49.2	393	44.1	NA	
3. Suggest stock only.....	21	23.1	60	21.5	57	16.9	28	15.1	166	18.6	NA	
4. Suggest reduced cash dividend only.....	6	6.6	20	7.2	19	5.6	7	3.8	52	5.8	NA	
5. No opinion.....	16	17.6	34	12.2	20	5.9	14	7.5	84	9.4	NA	
K. Which of these is closest to the amount you "normally" invest in the common stock of each of your companies?												
1. \$250.....	13	14.3	17	6.1	12	3.5	2	1.1	44	4.9	58	4.2
2. \$500.....	24	26.4	62	22.2	34	10.1	11	5.9	131	14.7	209	15.2
3. \$1,000.....	22	24.2	86	30.8	71	21.1	19	10.3	198	22.2	385	28.0
4. \$2,000.....	15	16.5	57	20.4	112	33.3	44	23.8	228	25.6	422	30.7
5. \$4,000.....	5	5.5	23	8.2	57	16.9	49	26.5	134	15.0	206	15.0
6. Over \$4,000.....	8	8.8	30	10.7	39	11.6	51	27.6	128	14.4	NA	
L. What kind of market do you like your stocks to have, assuming either to be feasible?												
1. On a stock exchange.....	52	57.1	155	55.5	234	69.6	124	67.0	565	63.4	918	66.8
2. Over-the-counter.....	6	6.6	3	1.1	5	1.5	2	1.1	16	1.8	34	2.5
3. Either, if a good market.....	19	20.9	107	38.3	89	26.5	55	29.7	270	30.3	387	28.2
4. No opinion.....	11	12.1	11	3.9	3	0.9	5	2.7	30	3.4	33	2.4

Note: Totals vary because not all respondents answered all questions. The optional answers on the questionnaire form were more complete than the condensed phrases shown here, to assure a clear understanding.

of \$4,000 and over, and it appears that large stockholders have a pronounced tendency to hold more issues as well as larger amounts of each issue. For example, the "typical" sum invested in each issue by holders of 3 to 5 issues appears to be slightly more than \$1,000, while the typical sum invested in each stock by holders of more than 15 issues is a little less than \$4,000. These figures are estimates based on unverified questionnaire replies and cannot be regarded as accurate, but they are dependable as indicators of general tendencies.

Finally, the cooperating stockholders were asked to express a preference between listed and over-the-counter markets, assuming either to be technically feasible. Here the results are also clear and decisive; 64 per cent in 1958 and 67 per cent in 1951 expressed a first preference for a listed market, while 30 per cent in 1958 and 28 per cent in 1951 found either a good listed or a good over-the-counter market acceptable. Only about 2 per cent of the replies favored an over-the-counter market as a first choice, although at least 20 per cent of the answering stockholders are believed to own over-the-counter stocks. Unfortunately, there is no data on the stockholder's reasons for these choices.

SOME POLICY CONCLUSIONS

When 29 per cent of a miscellaneous group of stockholders take the trouble to fill out a two-page questionnaire sent to them on the letterhead of Pacific Coast Stock Exchange, it is evident that the questions posed must deal with matters in which they are interested and on which they have opinions. When the answers to those questions dealing with corporate financial policy are internally consistent and logical, it would appear that these stockholders are reasonably well informed and that corporate management will do well to study and consider their opinions. It is also evident that stockholder preferences change to some extent with changing economic conditions, perhaps to an extent justifying adaptation of company policy. Finally, stockholder sophistication and an apparent disposition to accept policies tailored to company welfare suggest that candor and explicitness about company business affairs are excellent stockholder-relations procedure. Even if the 29 per cent who responded to our questionnaire are better informed than the 71 per cent who did not, their intelligence and cooperative attitude must be in part reflected in all the stockholders and must certainly be worthy of cultivation.

History shows that great economic and social forces flow like a tide over communities only half conscious of that which is befalling them. Wise men foresee what time is thus bringing and try to shape institutions and mold men's thoughts and purposes in accordance with the change that is silently coming on. The unwise are those who bring nothing constructive to the process and who greatly imperil the future of mankind by leaving great questions to be fought out between ignorant change on one hand and ignorant opposition to change on the other.

John Stuart Mill

R. A. GORDON

Some Current Issues in Business Education

What should universities do to prepare students for careers in business?

Some two years ago, the Ford Foundation commissioned a study of collegiate business education in the United States.¹ This study is now in its closing stages. The field work has been completed, and the final report is in process of being written. This paper presents some of the preliminary ideas that have thus far emerged from the study. In presenting them here, I must emphasize their preliminary character. They will be substantially elaborated, and possibly somewhat modified, in the final report.² I should also add that this paper deals with only one, albeit a major aspect of the study: the education of future businessmen through the degree programs in the colleges and universities. Other topics of vital importance to schools of business administration—research, the training of future teachers, and the role of vari-

ous service activities, including non-degree educational programs for businessmen—will be dealt with in the final report but not in this paper.

THE PROBLEM OF DIVERSITY

An outstanding fact about business education is the extent of diversity, or heterogeneity, with which it has to cope. This diversity has three dimensions, and all three are important. They are diversity in the kinds of occupations and careers for which they prepare students, in the qualifications of students, and in the resources of the schools.

Career Diversity

I can think of no other form of professional training which has to contend with as much heterogeneity in occupation and career as does business education. This heterogeneity has at least four aspects which need to be differentiated: businessmen may differ as to the nature of the function they perform, the kind of industry in which they operate, the degree of authority they possess, and the size of firm with which they are associated. All four of these variables have had some influence on the thinking of business educators.

¹ This paper, with some minor changes, was first presented at the annual meeting of the American Association of Collegiate Schools of Business in Gatlinburg, Tennessee, on May 2, 1958. Associated with me in this study is Professor James E. Howell of the Stanford University Graduate School of Business.

² In addition to the Ford Foundation Study, a survey of collegiate business education under the direction of Professor Frank Pierson of Swarthmore College has also been in progress. This survey, which has been financed by the Carnegie Corporation, will presumably be completed about the same time as the Ford Foundation study. Close cooperation has been maintained between the two studies.

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The kind of occupational or career diversity which has been most discussed arises out of functional specialization. Viewed broadly, there are "line" and there are "staff" jobs, although these categories are too broad and the distinction between them is too fuzzy to be very helpful. Howard Bowen's suggested classification of businessmen is somewhat more useful: (1) those contributing specialized skills in the various staff specialties (accounting, personnel, finance, market research, etc.), (2) salesmen, (3) managers of branches, departments, and the like, and (4) top management. To these I should be inclined to add a fifth category: owner-managers of small firms.

The second aspect of diversity in career has to do with the wide range of different industries in which business is carried on. Reflecting this sort of diversity, many business schools offer special training for particular industries, which may be defined either narrowly or broadly. On the whole, however, it remains to be demonstrated that the requirements for the practice of business in different industries vary so greatly that the business school must to a significant degree reflect these differences in the training it offers.

Another dimension of career diversity comes from the wide range in the job levels which will ultimately be attained by college graduates going into business. An informed businessman has recently warned the business schools against the "assumption that all men and women who prepare for business are to be prepared for top management or policy-making experiences." Some of the undergraduate schools we have visited, who give lip service in their catalogues to the objective of preparing their students for careers in the higher levels of management, worry a good deal over the probability that many of their graduates will not rise very far in the business world. This is frequently the rationale offered for programs with a low-level vocational emphasis.

Now we come to the last aspect of this prob-

lem of heterogeneity of career. Business is carried on in firms ranging in size from the one-man enterprise to the multibillion-dollar corporation. Apparently, the Harvard Business School was recently surprised at the number of its alumni who eventually became owner-managers of their own firms. Some schools offer special courses in "problems of small business" for those planning this sort of career. The fact that many business-school graduates do associate themselves with small firms has been used as an argument both for and against a specialized business curriculum. And the business schools, particularly the graduate schools, have sometimes been criticized for allegedly behaving as if all their graduates would work for very large firms.

Variation in Student Abilities

In one sense, business schools are not at all unique in having to cope with heterogeneity arising from differences in the quality of students. The dispersion in ability, so far as we can measure it, is moderately wide in all branches of higher education. In terms of the Army General Classification Test scores, the dispersion in abilities of business students is no greater than in most other fields, at least at the undergraduate level. What is striking, however, is the evidence that business administration gets a much larger fraction of poor students and a smaller percentage of the best students than do the traditional professional fields. The mental ability of undergraduate business students averages somewhat lower than for all college undergraduates. This contrast also stands out at the graduate level, where, in terms of median test scores, business students rank with graduate students in dentistry, education, and social work, and below those in law, the social sciences, and the humanities, not to mention the natural sciences, engineering, and medicine.

Although business schools seem generally to engage in a minimum of selective screening,

schools do differ in their admissions standards and in what they expect of their students. As a result, business schools vary in the quality of their student bodies from graduate schools like Harvard and Carnegie Tech, with their highly selective screening procedures, at one extreme, to some state and municipal universities which are willing or are legally bound to accept virtually all high school graduates who apply.

Here then is the problem. Truly professional training implies standards which are presumably higher than those applied to the college population as a whole. Few would deny that at least the upper and middle levels of business call for a high order of competence, although this competence is the product of a number of factors in addition to what is measured by intelligence tests. And as we know, the need for a high order of business competence grows *pari passu* with the increasing complexity of business operations and of the environment to which businessmen must adjust. If business programs are geared to the pace of the poorest students, the needs of society for adequately trained businessmen are not being met. If standards are raised, we exclude some range of students who now qualify. And, to face an unpleasant but very real fact, some universities rely on their business schools for an important source of revenue. In the case of the tax supported institution, taxpayers may demand that their children be offered collegiate training for business, which is the residual occupation open to all in a private enterprise economy.

The answer seems to lie both in higher standards and in differentiation among educational programs. Standards must be raised, either through more selective admissions or through higher attrition rates. The excluded students will have access to the other departments of the university, if they can meet other departments' standards, or to the growing number of junior and community colleges.

Even with higher minimum standards, there will be need for flexibility—among schools and

within the same school. (I am by no means advocating the same standards of admission for all schools.) And each school has an obligation to offer a challenge to its best students, as well as to provide for the poorer students that it is willing to admit.

So far I have confined myself to mental ability as measured by intelligence tests. Competence in business, however, is a product of more than mental ability, and above some critical level the association between "intelligence" and business success seems to be relatively weak. We know all too little about the other kinds of personal qualities that make for business success. Whatever these other qualities are, they are almost certainly unequally distributed among business students. Since these non-mental qualities apparently play a more important role in business success than they do in most professions, it is important that we know more about them and that business education be geared to develop the qualities that are discovered to be most important. Here again is a selection problem. At the undergraduate level, there is probably not much opportunity to screen students on the basis of non-mental qualities; at the graduate level, the opportunity is greater and a few schools are doing a little something about it. In addition, more personal counseling is clearly necessary.

Disparity in Resources

In turning to the third type of diversity I listed at the beginning of this paper, the wide disparity in resources available to different schools, I am not speaking of buildings and equipment, although these are not without some significance. The kinds of resources that important here are human and financial. From this point of view, business schools vary widely in the financial resources they can command to acquire and hold a faculty of adequate size and quality; in the kind of faculty they have inherited from the past and the ability of the faculty to change with the times; in their abil-

ity to finance research, scholarships, and so on; and in the extent to which the parent university is dependent on a "profit" from the business school through tuition fees and income from a variety of service activities.

In our study for the Ford Foundation, we have been sensitive to this disparity in resources, which is probably greater in business education than in most types of professional schools. In making recommendations to improve the quality of business education, we cannot ignore the question: What, with the best of good will, is it possible for the poorer schools to do?

THE COMMON ELEMENTS

In the face of this much diversity, what are the common elements which should govern the kind of business education offered by the colleges and universities? Or to put it slightly differently, what is common to the practice of business that cuts across the kinds of diversity that I have described?

It seems to me that four basic facts common to all businesses need to be emphasized and taken into account in devising a business curriculum. First, a business firm is an organization, and hence the practice of business involves the need for an understanding of, and skill in dealing with, organizational and administrative relationships. Secondly, business firms operate within a non-market environment (as well as within a market environment). This non-market environment involves all those influences acting on the firm that do not involve buying and selling relationships—the influence of government, growth and fluctuations in the national income, technological and scientific developments, the general climate of public opinion, and so on. There are two points to stress about the relation between business firms and their environment. One is the fact of mutual interaction. The other is that these interrelations continuously change, and emerge from the past into an unseen future.

The third element common to all business firms is that they operate in a market environment and engage in buying and selling activities. An understanding of business operations involves some knowledge of the functioning of the markets within which a firm operates—the commodity markets in which it buys and sells and the labor and financial markets in which it procures its personnel and money capital. All businessmen need to understand something about how these markets function, but not all have to acquire the skill to operate in one or another of them.

Finally, business firms are concerned with the creation of utilities for sale through the use of men, money, and materials. In this respect, business is concerned with the management of economic resources in accordance with primarily economic criteria. Such management requires certain functions: the various inputs must be procured and conserved and must be combined to create what the firm intends to sell, decisions must be made as to what and how much can be sold and by what means, and, finally, data must be provided for making rational decisions and for evaluating past decisions.

It seems reasonable to suggest that the businessman should have some understanding of all these business functions and their interrelationships and of the informational and analytical tools needed for making decisions about them. He will need to develop skills as well as knowledge. To some extent, the skills required may be common to most aspects of economic management, but a more specialized type of skill may also be required, depending on the task to be performed.

EDUCATIONAL NEEDS IN BUSINESS

What does this conceptual scheme imply for the education of future businessmen?

It implies, first, some definite things regarding the general education that is required. Some minimum of a liberal education is essen-

tial for all citizens in a free society. But beyond this, our four elements suggest the importance of a general education for professional reasons. The businessman must have some understanding of and be able to cope with the interactions between his firm and what I have called the non-market environment. This implies (among other things) historical perspective, a background in economics, sociology, and political science, and some familiarity with science and technology. It implies the need for a flexible mind that has both breadth and historical perspective, and it implies also a set of attitudes toward the role which business and businessmen should play in the local, national, and international setting.

In addition, an understanding of organizational relationships and their influence on decision-making requires some background in the behavioral sciences. The need for a background in science and technology and the need to reach rational decisions on the basis of possibly complex bodies of quantitative data call for some facility in mathematics. The fact that the businessman is an organizational man calls for skill in verbal communication and in interpersonal relations.

The elements of our conceptual scheme suggest also the kind of professional core that is needed, a good part of which (but not all) is now being offered in most business schools. The need for the tools of accounting, statistics, and economic analysis is obvious. Our common elements emphasize, as do virtually all business schools, the so-called functional fields of finance, marketing, production, and personnel. They suggest some additional things about the teaching of these functional areas, all of which—except production—have both an external, market aspect and an internal, managerial aspect. The internal, managerial aspect of all four areas (finance, marketing, production, and personnel) requires treatment which takes into account, among other things, (1) the fact that these functions are performed within

an organizational context, (2) the analytical tools available for reaching rational decisions, (3) the kinds of information that are relevant and how they are to be obtained, and (4) what the underlying physical and social sciences can tell us about the forces determining the alternatives available.

Our conceptual scheme points firmly to the need for work in organization and administration. What is needed is not so much what is called "management principles" but a general understanding of the structure and functioning of organizations, some knowledge of the way in which such structure and functioning affect the making and implementation of decisions, and some skill in handling organizational and particularly interpersonal relationships.

Knowledge, to be useful, must be applied, and the most fundamental skill required in business is the ability to apply what has been learned either from formal education or from experience. This suggests the need for "clinical" teaching; the students must not be permitted to be passive in the educational process. So far, the case method of teaching has been the business schools' chief answer to this problem, but this is not the whole answer.

Our common elements, just because they are common to so much of business, tell us nothing about the need for specialized training. It is clear that some kinds of tasks do call for specialized skills; and the more technical the nature of the operations and the more extensive the internal division of labor, the greater will be the need for technically qualified experts. Our conceptual scheme is silent on the need for industry specialization, although it seems likely that in both production and marketing, but much less so in finance and personnel, the kind of expertness necessary will to some extent vary with the nature of the goods and services that are produced and sold.

Where and how should the technical expertness required for different tasks be acquired? Several considerations argue against providing

much of it at the undergraduate level. To begin with, the time available in the undergraduate years is scarcely adequate to develop the general knowledge and skills required; expertness itself is coming to depend increasingly on the ability to make use of various of the basic academic disciplines, including the social and physical sciences and statistics and mathematics. Moreover, because people do move within a firm and among firms and because the character of business is continually changing, the most useful background is a grounding in the fundamental subjects that can be adapted to new and different kinds of problems.

Finally, education for business is a lifetime process which involves not only formal education before a business career begins but also the learning that comes through experience and the formal training that can go on concurrently with work experience. An impressive body of evidence suggests approximately where the dividing line should be drawn between work experience and the employer, on the one hand, and the colleges on the other. This line would leave the basic foundations to the colleges; specialized training would come later, either in graduate school, through experience, or through various kinds of special courses and programs that are available.

QUALITIES NEEDED IN BUSINESS

I should like to turn now to some of the evidence we have collected from businessmen regarding the kinds of education and personal qualities that seem to be needed in business.

It is, of course, the fashion in business today to stress the value of a liberal education. We encountered this view in the companies that we visited. Even more striking, however, was the extent of the preference stated for engineering and science graduates.

Most of our sample of firms employed business-school graduates and found them useful. Specialized training within business adminis-

tration, however, was not heavily emphasized, although a number of firms wanted it for particular staff specialties. We found less of a preference for master's degrees in business than we expected, although a number of our respondents also held that the ideal education for business was a combination of undergraduate liberal arts or engineering and a graduate business program.

So far as recruiting policy is concerned, our respondents placed much more emphasis on getting the kinds of recruits who could move into the higher levels of management than they did on finding students with the skills needed for the first job they might occupy. But we found some evidence of a conflict, which has been noted by others, between the requirements specified by first line supervisors and those which the personnel department and top executives thought were necessary to meet the long-range management-development needs of their companies. We found a little evidence that a change was occurring, and that these long-run needs for management development were coming to play a more important role in recruitment.

In more than half the companies we interviewed, there was a considerable horizontal movement between line and staff jobs, with a somewhat greater movement from staff to line than in the opposite direction. We did not get the feeling that the education required was much different for line and for staff jobs, with obvious exceptions in the case of some technical staff specialties. Some difference does seem to exist, however, in the combinations of required personal traits.

In each company, we asked the respondents to specify the personal qualities (including technical training) that were most important for success in business. The qualities given the greatest weight were motivation and personal drive, skill in interpersonal relations, moral character, and superior (although not necessarily extremely high) mental ability. Re-

spondents tended to stress also breadth and imagination, judgment, willingness to accept responsibility and to take risks, ability to communicate, and command of general administrative skills. They considered specialized knowledge and technical skills of only moderate or minor importance, except for certain types of jobs. Interestingly enough, personnel officers placed less importance on specialized knowledge and skills than did other executives.

It is also worth noting that two of the factors that seemed to be emphasized most by these companies in recruiting new college graduates were extracurricular activities (as an indication of leadership) and personality. In general, the preference was for above-average but not necessarily exceptional grades.

We have accumulated a considerable body of other evidence which space does not permit me to cite here. I will, however, mention one additional point. Neither our company interviews nor a questionnaire sent to about fifty college placement offices suggested any insistent demand for specialization at the college level in particular industry areas.

In general, our studies suggest that a minimum set of general qualifications that can carry the college graduate quite far in the business world. This is not to deny that different combinations of ability, knowledge, and skills may be needed in different kinds of jobs or that the same combination may not be equally prized in all industries and by all firms. But the evidence does suggest that the business schools would be well advised to concentrate on the basic knowledge and skills which are generally required and on selecting more carefully the students endowed with the abilities and other traits that business generally seems to require.

SOME SUGGESTIONS FOR A FLEXIBLE APPROACH TO BUSINESS EDUCATION

Now for the basic question: given both the elements of diversity and the kinds of knowl-

edge, skills, and attitudes that seem generally to be needed, how shall the business schools plan their educational programs?

I can do no more here than sketch a few suggestions for what is a many-faceted problem with no single and simple solution. These suggestions stem in part from the preceding discussion and in part from other evidence not presented here.

My first conclusion is that there is room for both graduate and undergraduate programs in business administration. Ideally, the best education for business is an undergraduate program in liberal arts (or a science-engineering curriculum broader than most engineering schools currently offer) followed by two to five years of work experience and then by one or two years of graduate training. This is an ideal available to very few.

The next best alternative is the same kind of undergraduate program followed by two years at a graduate business school. While this course is being taken by an increasing number of students, it will not take care of the needs of the majority of those who wish both a college education and a career in business. Hence, the undergraduate schools of business will be necessary for the indefinite future, although some schools may choose, and perhaps should be encouraged, to move toward a five-year program. This, then, is the third alternative.

Where the choice can be made, the argument in favor of confining the undergraduate years to general education, including a liberal dose of the social and physical sciences and mathematics as well as the humanities, is fairly strong. Four years are scarcely enough time to acquire the beginnings of a liberal education, which has values for its own sake on which we need not expatiate. Equally important, as we have seen, are the professional values of a general education for the businessman. This is particularly true of work in the social sciences including history, in the physical sciences and mathematics, and in verbal communica-

tion. Considerable evidence suggests also that the extra maturity of the graduate student enables him to gain more from a professional education, and standards can be significantly higher than at the undergraduate level.

It is possible, however, to offer an undergraduate business program of a reasonably high professional quality, although I confess that I do not think many schools are yet doing so. In planning for the future, we need to continue to think in terms of both graduate and undergraduate programs existing side by side, both largely serving the same general purposes but in somewhat different ways and providing for different bodies of students. I anticipate and would welcome continued increase in the number of graduate students relative to undergraduate.

Graduate programs in business administration are primarily of two basically different kinds, although a number of variants fall between the two extremes. The one-year Master of Science program provides substantially for a year of additional specialization on top of an undergraduate major in business. The other basic program is the two-year Master of Business Administration program, which assumes no previous work in business administration, is built around a fairly broad core, provides for relatively little specialization, and emphasizes preparation for a general management career. Of the intermediate variants, an increasingly popular one is the two-year program for those who did not major in business as undergraduates, which offers in effect the undergraduate core in the first year and a year of specialization and electives in the second. A number of schools have begun to offer part or all of the first-year core in special graduate sections, instead of mixing graduate and undergraduate students, and have thus moved closer to the two-year M.B.A. type of program.

For most students I think there is a strong argument against the sequence of a conventional undergraduate major in business ad-

ministration followed by another year in the M.S. type of program, particularly when we consider that the typical undergraduate program already calls for a considerable amount of specialization in some business field. This sort of sequence provides for too narrow a training and typically involves too much neglect in the undergraduate years of the underlying disciplines and basic tool subjects on which truly professional training in a special field should be based. Further, the graduate year of specialization is not the best kind of training for those who are not planning to spend the larger part of their careers in a particular business specialty.

Ideally, I should favor something along the following lines. Let us keep the one-year M.S. program for future specialists, if it is clear that they want to be specialists, but let us also try to limit the extent to which they specialize in the undergraduate years. For almost every special field I can think of, the graduate year of specialization should be preceded by undergraduate work in business limited to the required core courses. Undergraduate concentration beyond this should be in complementary non-business courses that add to the foundation on which the future specialization can be built.

The two-year M.B.A. type of program will almost certainly continue to grow. It is clearly the preferred type of graduate program for the non-specialist. This type of program, which assumes no previous work in business administration, provides an opportunity for flexibility in the second year. Some schools may prefer to permit only a minimum amount of specialization in the second year; others may choose to encourage a considerable amount. Both alternatives seem acceptable, with this proviso: the specialized training should be at a high level and assume a substantial background in the relevant tool subjects and underlying disciplines.

Now let me turn to some other matters. I

have already indicated that the level of instruction needs to be raised, particularly in the undergraduate schools. This means more selective admission standards or higher attrition rates or both. The intellectual quality of most undergraduate instruction in business courses is too low, and this is true in many graduate courses also. Students need to be provided with more of an intellectual challenge, their logical faculties need to be more fully developed, they need more practice in problem solving, and their understanding of the structure and functioning of business needs to be both sharpened and broadened. They need to participate in the educational process more actively than they now do. This means less reliance on lectures and textbooks, more library assignments, more problems and cases, more reports to write, and fewer examinations in which the only communication skill required is the ability to make a check-mark.

The disparity among schools and the populations they serve make some variation in standards inevitable. But the minimum level of acceptability—in admission standards and in quality of work—should clearly be raised. For the undergraduate schools, I suggest a simple guide: standards should be moderately higher than they are in the liberal arts college on the same campus.

So far, I have emphasized the need to improve quality but have said little about what a program in business administration should include. Although in a moment I shall offer some suggestions regarding the undergraduate curriculum, I should like to emphasize that I do not know most of the answers. The schools need to experiment—with curriculum, course content, and methods of teaching. The main types of knowledge and skills that are needed can undoubtedly be developed in different ways. The same way will not necessarily work best in every school.

There is one specific suggestion, however, that I should like to make. Business competence

is more than a question of exposure to a given range of subject-matter. All professional training involves skill development. Among the most important skills for the businessman are skill in rational decision-making in the face of uncertainty and incomplete information and skill in human relations and verbal communication. There are other skills, also, some of which we mentioned at an earlier point. It is fair to say that the business schools have thus far done too little to develop the kinds of *basic* skills that make for business competence. At the same time, too many schools have been trying to develop various kinds of narrow and low-level skills which, though they may help the student land his first job, are likely to handicap him in adjusting to new situations and in demonstrating his capacity to advance to more responsible positions.

The growing use of real-life business cases is a move in the right direction. I am sure also that more can be done to develop skill in interpersonal relations through a careful use of role playing and similar techniques. Since students do not have the opportunity to practice what they learn in actual business situations (except to a very limited extent through work experience), it is important to find other types of organizational situations with which they do have experience. In this connection, I wonder whether there are not some untapped opportunities to make use of the students' experience in campus and other organizations.

I am sure that by now many deans have thrown up their hands in despair. "How," they are undoubtedly asking, "can we do the kinds of things you suggest when our resources are so limited and our faculties are already overworked?" Nearly all my suggestions—to raise standards, to experiment, to develop new teaching techniques—call for an additional expenditure of faculty time.

I cannot at this time give a complete answer, but I do have two suggestions to make. First, the schools should drop more of the poor stu-

dents. I realize the problems in doing this for the school that is expected to show a profit for its university. But what I want to emphasize now is my second suggestion: the schools should stop offering so many courses. The degree of course proliferation in many schools has now reached lengths that border on the scandalous. The faculty time that could be saved through a severe but entirely justified streamlining of existing course offerings would certainly be substantial. I shall not comment on a third possibility, which a good many schools are currently examining. This is the attempt to make teaching more efficient through a variety of techniques including television, larger classes, greater use of assistants, and the like.

THE UNDERGRADUATE CURRICULUM

Let me end with a few suggestions regarding desirable changes in curriculum in the undergraduate schools. While our conclusions are still tentative, I should at present list the chief needs to be as follows:

First, the minimum amount of general education required should be raised from 40 to 50 per cent (some schools exceed this) and the nature of the general education requirement should be specified in somewhat more detail. I suggest a minimum total requirement in English composition, literature, and speech of two and one-half years. Courses in "Business English" and "Business Correspondence" should be eliminated. The latter is largely a stultifying waste of time. As for the former, businessmen speak and write the same language as the rest of us, or at least they should. Greater stress should be placed on history, physical science, psychology, sociology, and mathematics. The mathematics requirement should take the student preferably a year beyond college algebra, particularly in the direction of the kinds of mathematics which are becoming increasingly important in business and social sciences.

Courses in "business mathematics" and "mathematics of finance" should be abolished or put on a non-credit basis. Minimum proficiency in arithmetic and elementary mathematical reasoning should be a condition for admission to the business school.

Not only should more work outside of the department of business administration be required, but also the core requirement in business should be revised. The accounting requirement should be held to one year. In a considerable number of schools it is more than this. The elementary accounting course needs to be overhauled so as to emphasize theory and interpretation more and procedure less. Experiments which attempt to integrate accounting and statistics should be encouraged, and some schools may wish to require an additional course that would introduce the student to the general principles underlying operations research and other techniques for quantifying the basis for rational decision-making.

Clearly, the core should include a semester to a year in organization and administration, including interpersonal relations. A course in industrial (*i.e.*, production) management is not a satisfactory substitute, nor is a course in "management principles." Much additional experimentation is necessary before we can know what and how to teach in this area.

The core should include two semesters of upper division economics, one in "managerial economics" and one in aggregative economics. The latter would deal with national income, business fluctuations, fiscal policy, and the like. With such a course, a separate requirement in money and banking, which still exists in a good many schools, would not be necessary. These courses should be geared to the needs of the students in business administration and should not be required merely to cater to the desire of the economics department.

Considerable flexibility should be allowed in the way the functional fields are handled.

There is a clear need for courses in marketing and finance that would deal with both the internal, managerial as well as external aspects of those functions. Institutional description should be kept at a minimum. The personnel field could be handled in various ways. If a significant amount of work on human relations is included under the heading of organization, then a course in industrial relations might be required.

The production field continues to bother me. While production in the sense of combining resources to create salable utilities is common to all business, it is difficult to devise a course in production which is more than a course in manufacturing techniques. Perhaps the answer is to substitute some sort of survey course in science and technology. Two other possibilities occur to me: a survey of modern industry or a course in techniques of decision-making. I fear the first of these alternatives because that sort of survey course could so easily degenerate into monotonous description, as has the typical freshman course on "Introduction to Business"—a course which could profitably be excised from the curriculum of those business schools which still offer it.

In all, I should allow three to five semester courses for the functional fields. Experimentation should be encouraged, including experiments in combining the functional fields and integrating them with the work in managerial economics.

The business administration core should be topped with an integrating case-course in business policy and an intellectually challenging course on the legal, political, and social setting of business. The function of the latter might be served by various history courses. I think that the traditional sort of course in business law could be dropped.

Now I come to the field of concentration within the business curriculum. The most desirable policy would probably be to have no fields of specialization within the business

school, but the student might be permitted one or two business electives in senior courses or seminars where a particular faculty member might wish to offer advanced work.

Before this proposal is drowned in a roar of outraged protests, let me offer an alternative suggestion that I should find only slightly less acceptable. Let the field of concentration be limited to a maximum of the equivalent to four one-semester courses (12 semester units), of which half would be taken in a non-business but related field. (I would permit the accountants to take all twelve units in accounting, but I concur with those who argue that, if public accounting is to have the professional status it claims for itself, it must move to a five-year program.)

I shall be bold enough to make a few additional suggestions regarding the field of specialization. First, the number of fields of specialization permitted in most schools should be reduced substantially. In general, five or six fields would cover most needs, to which might be added one or two others in which a school's faculty was particularly strong. Second, specialization in particular industry fields should, with a few exceptions, be discouraged. This sort of specialization tends to be merely descriptive of prevailing practice and lacking in analytical content, although I have encountered exceptions to this generalization. Third, fields of specialization should be developed on an integrated basis. The field should be viewed as a whole, and the successive courses in the field should build up the student's understanding in a logical and cumulative way. The current practice is to chop a field into a number of relatively small pieces—in the case of marketing, for example, into retailing, wholesaling, purchasing, advertising, salesmanship, etc.—and, with some restrictions, to let the student choose a selection from the available pieces. Even when the field is completely prescribed, there is usually not a logical and cumulative development of the subject.

Let me end at this point. As a number of observers have been led to comment, the field of business education is in intellectual ferment. Objectives are being re-examined, standards are being reappraised, curricula are being revised, and new teaching methods are being tried. The more progressive of the schools and departments of business administration are taking a new look at their place in the scheme

of higher education and are trying to assess the significance for them of the rapidly changing character of American business and of the new developments in the underlying disciplines on which the practice of business is based. We hope that our report will contribute to this process of re-examination and perhaps speed the changes that need to be made.

Wise is the businessman who seeks the company of scholars. Wise also is the scholar who seeks the company of businessmen, and farsighted the institution of higher learning which invites them to visit its academic halls. These two groups, the professors and the men from industry, have more in common than they know, and each has a great contribution to make to the other. Together they bear important responsibility for the preservation of the American way of life.

Clarence B. Randall,

"A Businessman Looks at the Liberal Arts."

ALLAN SPROUL

Economic Power Centers and Credit Policy

An inquiry into the relationships between credit policy and the three great centers of economic power—government, business, and organized labor—uncovers a need for some “hard” decisions.

As did Caesar in discussing Gaul, a fact you may remember if Latin has not been entirely pushed out of our secondary school curricula by less arduous subjects, I shall view my subject in roughly three parts. This I am going to do by selecting as the three main power centers of contemporary economic life, government, corporate business, and organized labor. The existence of these power centers I shall try to relate to credit policy.

GOVERNMENTAL CREDIT CONTROL

It is now widely accepted, gladly, grudgingly or thoughtlessly, that government has become something more than a maker of certain of the rules to be followed in our economy, and a referee of their application. This applies particularly to the federal government, although state and local governments also are an important part of this power complex. In an economy in which something like a third of the national product is taken by taxation at various levels of government and returned to the com-

munity in various public services, including defense of the realm, this cannot help but be so.

We may think that the total burden of taxation is too heavy; we may object to the way the burden is distributed, and we may deplore the wastes and inefficiencies of government which come to our attention. But so long as military preparedness requires so much of our substance, and so long as so many of our citizens, in groups and by localities, demand and receive a variety of public services and assistances, I doubt that the burden will be substantially and permanently lightened. Nor am I sanguine about its better distribution. The massive efforts of two Hoover commissions have shown how difficult is the road to more efficient and less expensive government, when government is so big and sprawling as ours has become. I am afraid that even the continued vigilance of public groups and the courageous action of some of the men in government will be able to do little more than hold a check-rein on the forces which seem to impel us toward a swollen public purse.

MR. SPROUL, the former President of the Federal Reserve Bank of New York, is a member of the National Commission on Money and Credit recently created by the Committee for Economic Development. “Economic Power Centers and Credit Policy” was delivered before the alumni of the University of California School of Business Administration at Berkeley.

We may, however, gain some advantage from the situation in which we find ourselves by improving the use we make of this tremendous concentration of economic power in government. It is a fact we should recognize—no matter how great our devotion to private enterprise. We should make conscious use of the economic power of government rather than have it blindly affect our economic fortunes.

But let me add quickly that I am speaking here not of those direct and specific interventions in economic affairs, the easy proliferation of which I view with distrust, but primarily of credit control and the related areas of fiscal policy and debt management, and of certain other broad areas of government action—areas in which a pervasive but largely impersonal and indirect influence may be exercised.

It is revealing, I think, that in dealing at the government level with the economic recession of 1957-58, we seem to have done so much improvising as we have gone along. Except for credit policy and the so-called automatic stabilizers which require little or no positive action, we do not appear to have been working from plans which, no matter how they might have had to be altered to deal with emerging conditions, could be made to seem to the public a more intelligent whole and thus to command a higher degree of public confidence and support. Sporadic bursts of billions of proposed expenditure, of uncertain incidence and unknown duration in time, do not add up to an intelligible program and do expose us to the danger of starting things we shouldn't finish when the present recession has passed. Nor did blowing hot and cold on a general cut in taxes, because of the effect of such a cut on a budget already sagging beneath the weight of increased spending and because of recurring hope that the worst of the recession may be over, add clarity to our purpose. To a certain extent, of course, this is a matter of faulty communication between the center of power and the community it serves in dealing with

difficult and complex matters. And to a certain extent it is a result of having an executive of one party who often proposes, and a Congress controlled by another party which often disposes. But it also reflects, I think, the difficulty we are still having in trying to steer a course between the rocks of too much government in economic affairs and the shoals of indifferent use of powers which government already has and which only it can exercise.

I would like to suggest also, with somewhat more assurance than I have felt thus far, that our shortcomings in this area stem in part from our tendency to place too much of the responsibility of positive compensatory action by government on credit policy, as nationally administered, in the economic environment of today. This is easy to do. The credit authorities are partially insulated from partisan political pressure and private pressure groups. They have a continuing life which contributes to their ability to do their job. And they have control of an instrument which is relatively flexible in application and relatively speedy in getting results in the money market which it directly affects. But, as the credit authorities have often said, credit policy alone cannot do the whole job of restraining economic excesses in times of high prosperity, within the limits set by our professed economic goals, nor can it do the whole job of reviving economic vigor in times of recession.

And yet, when inflationary powers are in the ascendant, government is apt to act first as if the credit authorities were the only policemen on the block and later to threaten to take away their clubs, if not their stars, if they become too assiduous in performing their duties. The credit authorities may find themselves so undercut by a budget inappropriate to the state of the economy or by frequent treasury trips to market for financing and refinancing the government that consistent credit policy is most difficult indeed. They may find themselves working against the effect of special measures

taken by government to stimulate some particular segment of industry such as housing, or under attack because of what it is alleged they are doing to small business, or to the school and health and road programs of local governments, or to production and employment generally.

Nor is the situation very much better when economic excesses and economic mistakes have borne their usual fruit: a sinking spell which may be something more than a tremor in our rate of growth. We then expect the credit authorities to be prompt and vigorous in action, so that neither the cost nor the availability of credit will be an obstacle to recovery and so that the money supply will be adequate for our needs and a little more. At the same time, the credit authorities may sadly anticipate that the government will come up with a grab-bag of special measures, many of which may help to get the patient out of bed only to start chasing the nurse again. And they are conditioned by our post-war experience which suggests a strong revival of inflationary pressure when the economy resumes its upward trend and the belief revives among our people that you can take more out of the economy in wages, and profits, and leisure, and old age security than you put into it in terms of increased productivity. This sort of thing promotes caution in action by the credit authorities when boldness may be more appropriate, or delays bold action when timing is of the essence.

Clearly, it seems to me, there is need for better coordination of the economic policies of government if the use of its centralized power is to be most effective in promoting sustainable economic growth and if credit policy is to have a full and fair chance of contributing to this end. And I understand that there is now a group, representing various departments and agencies of government with major economic responsibilities, which from time to time meets informally with the President for this purpose. This may be the best we can do. With our form

of government, the executive branch is not supreme in these matters and, as an old central banker with some experience at Washington, I must say that I shudder at the thought of a coordinating body with powers to enforce operating policies. Nor does the Congress acting through the Joint Committee on the Economic Report, or in other ways, reduce my apprehensions on this score. We shall have to get along, I think, hoping that men of wisdom and judgment will be able to prevail in informal council.

Meanwhile, I should like to give the credit authorities some greater assurance than they now have that their mandate to try to maintain stability of the currency unit is a writ which runs coequally with the responsibility, assumed by the federal government, to promote maximum production and employment. In the policy statement preceding the action clauses of the Employment Act of 1946, the government committed itself to the promotion of maximum production, employment, and purchasing power, in a manner calculated to foster and promote free competitive enterprise and the general welfare. That Act reflected, in part, the fears of deflation born in the thirties and the majestic error of many of our economists, in and out of public service, in forecasting a massive rise in unemployment when the tremendous war-time expenditures of the federal government ceased after World War II.

In the years since 1946, however, we have mostly lived in a time when inflation—not deflation—was the dominant economic problem. This experience, too, should be reflected in our economic charter. It could properly find its place by adding at the end of the policy statement of the Employment Act a clause which would relate the money supply of the nation to sustainable economic growth and stability of the purchasing power of the dollar. Vague as such an expression might seem, it would avoid the dangers of a specific prescription which would be unlikely to fit each emerging situation, and would at the same time give the

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So much for the economic power which centers in government as it relates to credit policy. Perhaps I can deal with business and labor concentrations of power even more tersely.

EFFECT OF BUSINESS AND LABOR

The economic power center of business lies in large corporate business, and I speak of big business in no derogatory sense. It is a part of our economic development which has helped greatly to achieve our economic successes. No mushy sentimentality about small business, which has its own virtues, can alter that fact. But big business has introduced into our affairs concentrations of power which demand new ideas and new thinking, particularly of those who manage great corporate enterprises. It is silly to talk of the kind of competition which exists between our corporate giants today as being the same kind of competition which existed between the thousands of little firms of an earlier era, when the actions of one firm could not have much effect upon the whole economy, or even a whole industry, and when ownership and management were either largely synonymous or one was under the close surveillance of the other.

It must be obvious, it seems to me, that there has been a change of scene and climate which demands some re-examination of the attitudes and actions of corporate management. Why is it that large shifts in the relation between supply and demand of some commodities, of important fabricated products, and of consumer durable goods, have tended to find a mixed and tardy reflection in prices, at least on the downside? To be sure our indices of aggregate prices sometimes conceal as much as they reveal, but even a closer look at price movements suggests that we may be creating a price escalator, alongside a wage escalator, which seldom allows the consumer to shop in the bargain basement, and then only after his purchasing

power has been sapped by increased costs of services which often are making no contribution to increased productivity.

Is large corporate enterprise going to continue to be able to satisfy a substantial or major portion of its need for capital with internally generated funds and thus avoid, in part, the verdict of the capital market on its performance, or was this a temporary post-war phenomenon?

Is management now so remote from owner control and close public scrutiny as to heighten the likelihood that, when it sits down to bargain with labor leaders remote from legislative restraint, there will be a strong tendency to divide up the rewards of increased productivity within the group, rather than to share them with the consumer? Perhaps a species of mutual accommodation is growing up here which, even if forced, makes the two great power centers of business and labor more rather than less willing parties to increases in wages and benefits which outrun increases in productivity and which must result in continuous inflation if not checked by periods of excessive unemployment.

It is this latter question which bears most closely on my subject. The so-called cost-push inflationary pressures which have developed in our economy have tended to frustrate the monetary authorities, who are supposed to be the monitors of the demand-pull type of inflation. Despite restriction of the money supply and increased cost and lessened availability of credit in periods of business exuberance, rising charges on business unmatched by increases in productivity have spread upward price pressures throughout the economy. And it is largely begging the question, it seems to me, to say that these costs can only be validated, in terms of effective demand, if the monetary authorities permit the money supply to expand in line with rising costs. In an economy so liberally provided with near money government paper as is ours, the monetary au-

thorities do not have full and immediate control of the money supply. And once these costs have become embedded in the economy, and given our strong desire for continuous high level production and employment, it is asking a great deal of credit policy to expect it periodically to put the economic machine in sharp reverse by imposing a really rigorous credit scarcity. This danger, this disease, this design for creeping inflation, has to be attacked closer to its source and in the specific areas where it germinates and starts to grow.

Nor is the situation too dissimilar when business takes a turn for the worse, when productive capacity temporarily overtakes or surpasses effective demand in many lines, when loose practices in management and the excessive demands of labor have inflated costs beyond the extraordinary capacity of the consumer to accept the short end of the stick, and when the dead hand of old debts finally induces consumer caution in buying for cash as well as for credit. Although a prompt and vigorous relaxation of credit restraint in these circumstances can bring interest rates in the money market down sharply, can reverse the upward trend of yields in the capital market, and can restore the liquidity of the banking system, it cannot substantially increase the use of credit or capital unless consumer demand eats up accumulated inventories and, like *Oliver Twist*, asks for more. This is unlikely to happen, or will happen less quickly than it should, if the wage-price structure rigidly resists adjustment or even attempts to hold an upward course in important areas, propelled by escalator clauses, price supports, or new demands for concessions to labor power.

In short, we seem to be faced with a situation in which the growth of power centers in business (only partially restrained by government and managed by groups who are often responsible only symbolically to the owners of business) and the growth of power centers in labor (fostered by government and often responsible

to no one you can put your finger on) has created rigidities in the economic system which may greatly reduce and limit the effectiveness of credit policy as a moderator of business fluctuations and as guardian of the purchasing power of the dollar.

NEEDED: INQUIRY AND DECISION

If credit policy is to have a reasonable chance of responding to the hopes we lavish on it from time to time—hopes that it will be able to do its job of fostering sustainable economic growth while preserving the purchasing power of the dollars we earn and the dollars we save, we shall have to do more than study and improve our financial institutions and practices. We shall also have to re-examine and change where necessary the exercise of power at the centers of government, of business, and of labor.

We shall have to overcome our inherited opposition to the intervention of government in economic affairs, while trying to see to it that the margins of intervention are not successively widened and that the fact of intervention is not disruptive of economic balance. We shall need navigators as well as captains of industry, who will take a new look at the stars and try to plot a course which is determined by the present-day facts of business life and not by maps drawn a half century ago. We shall need legislation which places more restraint on the power of monopolistic labor unions to dominate our economy, and we shall need labor leaders who are habituated to such power as is rightfully theirs and who will wear the mantle of their influence with less arrogance and more concern for both the economic welfare of their constituents and the economic health of the whole community.

I have been one of those who have for some time advocated a full-dress study of our financial machinery and practices to see how they are serving our present-day needs. This clamor has resulted in the assumption by the Commit-

tee for Economic Development of the responsibility for setting up an independent monetary commission, an action which presumably has the passive approval of a government which refused to set up such a commission itself. I hope that such a commission, free of partisan pressure and private bias, can make a useful contribution to our knowledge of the working of a money economy and point the way to possible improvements, alterations and adaptations in our credit machinery. Such changes may require legislative action or private sanction.

I have convinced myself, however, and I have been trying to persuade you that a monetary commission, or anyone seriously interested in the problems of production, employment, economic growth, and stability of the purchasing power of the dollar, will have to look not only at our financial institutions and practices, but also at our economic power centers, which so greatly condition the force and effect of credit policy. If we are going to continue to rely on the monetary authorities to foster our pursuit of happiness, we cannot ig-

nore the changing characteristics of the economic environment in which credit policy seeks to perform its minor miracles.

Such inquiries are likely to confront us with the need for hard decisions. There is nothing bad about that. Failing to make hard decisions, when the times require them, is the rock on which nations, and companies, and labor organizations, and individuals, can be wrecked. There is a hard kernel of truth in the views of Robert Frost, a poet—not an economist nor a business man nor a labor leader nor a politician—and therefore pretty free to express himself. He is against everything and everybody that wants people to rely on someone else. He is against the United Nations. He is against the welfare state. He is against conformity and easy slogans. He hasn't seen a President he liked since Grover Cleveland. He holds that the way of nature is to confront man with the need for hard decisions.

"Nature within her inmost self
decides
to trouble men with having to
take sides."

Experience is simply the name we give our mistakes.

Oscar Wilde

MICHAEL J. KAMI

Electronic Data Processing: Promise and Problems

Electronic "brain power" can substantially simplify business operations—IF research in management can catch up to the double-time march of technology.

The topic of "Electronic Data Processing: Promise and Problems" certainly covers a lot of ground, and it is appropriate first to define and limit the scope of this paper. If we are to use electronic systems to their full potential in the years ahead, we must begin to think now about the future. I shall, therefore, discuss data processing prospects and problems in the 1968-1973 era. I shall exclude all scientific applications dealing with solutions of engineering, research and data reduction problems. I shall also refrain from discussing any "automation" applications whereby digital computers may control physical processes, whether in continuous-process industries, assembly, or job-shop type manufacturing. Important as scientific and technological problems are to electronic data processing, my concern here is with the commercial and business applications in 1968-1973.

It may seem that ten years is a long way ahead and that such speculations may be of a more academic than practical nature. It may also seem that many predictions dealing with problems and situations ten to fifteen years ahead are science fiction. This may well be so,

except that more often than not science fiction becomes, sooner or later, a practical reality.

To pursue this point a little further, let us take a look at the year 1947, which most of us should still remember. Consider how many things that appeared fantastic, impractical, or even impossible in 1947 are commonplace today. Television was in its infancy in 1947; yet to date American families have bought over 50 million sets. Color television was certainly science fiction. Frozen foods and freezers were practically non-existent; yet we have today over 9 million home freezers and a large variety of frozen foods. Air travel was done mostly on two-engine planes and short-haul routes; toll highways and superhighways were just being planned; the first supermarkets were being built; split-level homes were virtually unknown. Look back at 1947 and think of your attitude towards hi-fi sets, synthetic fibers, peaceful uses of atomic energy, heart surgery and polio vaccine, and power features on family cars. Of course we all have 20-20 hindsight, but how many of us really did foresee so fast a rate of change and innovation in the last ten years?

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Let us now look forward to the year 1968 and first make a necessary assumption that the next decade is not going to bring with it a global war. By that time, the U. S. population should have passed the 200 million mark. Our economy will need to produce goods and services worth well above the 600 billion dollar figure. This rise in our gross national product will require increased industrial productivity and greater efficiency in business management. The social demands of the increased population will translate themselves, on one hand, into a higher standard of living through purchases of goods and services and, on the other hand, into demands for more leisure time, fewer working hours, and increased workers' benefits. It is also interesting to note that the U. S. Department of Labor foresees considerable change in the composition of major occupational groups. Our professional and technical population will increase by 40%; our managerial population by 25%; our skilled and semi-skilled working force by 25%; there will be a considerable net decrease among our laborers, unskilled workers, farmers, and farm workers. The entire trend of our society will be towards a general upgrading of skills and living conditions. (Incidentally, we will be facing serious difficulties in our educational system where the potential enrollment in our colleges will have passed the five million mark, and we may well wonder about the availability of instructors, teachers, and professors to take care of this influx into our colleges.)

While all these forecasts may seem to you quite optimistic, I do believe that this optimism is justified when we start to analyze the rate of our technological progress. If you will consider the various technological breakthroughs that have occurred in the past, you will find, I think, that the rate of "knowledge obsolescence" increases exponentially rather than linearly; in other words, technology is changing at an ever increasing pace. You will further find that technological progress is a

step function in which at various times breakthroughs suddenly occur, at shorter and shorter intervals, to upgrade drastically our technological knowledge and know-how. This know-how then gets translated into new or improved consumer and industrial products. Thus, technological progress can often be revolutionary in nature.

But the ability of our society to adapt itself to these successive revolutionary breakthroughs is not revolutionary but evolutionary in nature. The platitude about the unwillingness of people to change is more than just another commonplace; it is *true*. Adaptation to technological change has to be gradual because of the tremendous momentum of established practices, existing modes of operation, production, plant facilities, and distribution systems.

After this somewhat lengthy introduction to set the stage, let us now dive into the subject at hand, namely, commercial and business data processing in 1968.

THE PROMISE

The prospects for technological progress and breakthroughs in this field are very bright, and I have full confidence that there is going to be a tremendous hardware progress in computer systems and all the peripheral equipment vitally essential to efficient computer utilization. In the same manner in which we may now look back at 1947 and realize the embryonic state of computer technology and components at that time, we may well, in 1968, take a look back at 1958 and see with amazement the progress that will have been accomplished.

Having this full confidence in all technological progress, I shall assume that in the 1968-1973 era we shall have vast, reliable, and economical means of communications through a network of digital transmission facilities linking cities, companies, and data processing centers. It is easy to predict that computers will have internal speeds and memories capable of storing, in machine-readable and accessible

form, all of the transactions of a business and that these memories will have the necessary degree of reliability to give company executives complete peace of mind about storing all the essential historical data of their businesses in an "invisible" electronic form. I am fully confident that there will be great improvement in the ease of service and of maintenance of the computer during its around-the-clock operation. During the next decade, we will see an accelerated pace of breakthroughs in electronic components, in their reliability, and in the manufacturing technology for their economical mass-production.

These statements are not just guesses; one need only look back at 1947 and think of the status of magnetic tapes, magnetic disks, semiconductors, and solid state components, and of the internal operating speeds of the 1947 computers to be convinced that the next decade will see tremendous progress in computer technology.

Having thus disposed rather lightly, but, believe me, not irrationally, of the technological problem, let us take a look at the data processing systems of the 1970 era. The "science fiction" picture is quite clear and is being described in an increasing number of popular and semitechnical articles and professional publications and referred to in various chapters of the fast-growing library of data processing books. Let me just summarize this picture.

The data processing system of the long range future will be an *operating* system, serving directly the many operating functions of the business. Accounting and bookkeeping will have become automatic by-products, summary analyses of the mechanized and machine readable handling of all of the transactions of the company.

The memories and processing units will be the heart of a complex network of communications where various departments of the company will remotely enter a record of their transactions and, in turn, request replies, quota-

tions, schedules, availability, as well as indications of possible difficulties, conflicts, or exceptions. The entry of a transaction, such as a customer's order for instance, will create an automatic chain reaction through sales, credit, engineering, production scheduling, personnel, raw materials, stock rooms, purchasing, manufacturing, shipping and billing, to name just a few of the departments affected. These interactions will not all be simultaneous, but will be geared to become effective in the optimum time sequence to permit a smooth, efficient, and economical flow of internal operations from the initial receipt of the order to the timed shipment of goods.

This kind of integration will not merely and partially automate repetitive document preparation, but should result in a drastic reduction in the flow and amount of internal paperwork generated by a company. As a by-product of the recording of all the transactions of the business in a machineable form, the firm's management will be automatically alerted on an exception basis to any deviations from pre-established norms and objectives. Management will also be able to test the validity and probable effect of any proposed policy modification or new policies on the computer simulated "fast time" model of company operations. Alternative decisions will thus be weighed, compared, and scientifically measured, and the best one selected for implementation.

THE PROBLEMS

Isn't it a beautiful and challenging picture? There is only one thing wrong with it. It is science fiction, science fiction blended with platitudes and sprinkled with hope. You may now say that I am contradicting myself, because at the beginning of this paper I cited examples of tremendous progress during the past decade and expressed unequivocal optimism about a still faster rate of progress during the next ten years. I stated that we seldom have the same degree of foresight as hindsight

and that more often than not science fiction becomes a reality sooner than we expect.

But I also said that while *technological* progress itself can be revolutionary and make all these possible, *methodological* progress is by its very nature evolutionary. We cannot expect to achieve the rosy picture of the integrated data processing applications, the "fast time" business simulation, "optimum" production scheduling and automatic "decision making" functions by an explosive and revolutionary breakthrough. It is going to take a long, evolutionary process, involving hard and persistent work on the part of all of us, before we shall be able to use computers for all the tasks they are technically capable of performing.

Thus, I come to the major point I wish to make: that methodology—our ability to use computers—is lagging behind technology.

It is becoming quite evident that progress in the so-called "management science" is lagging considerably behind achievements in the more precise sciences such as mathematics, physics, chemistry, and electronics. We have to face the fact that the increasingly rapid progress in data processing equipment and computer technology is not being fully exploited by business and industry because of present limitations in our knowledge of the *science*, as opposed to the *art*, of business. Every business uses the physical sciences in its product design and research and many can proudly show beautifully equipped laboratories where advanced analytical work is being conducted. But how many businesses can boast of similar objectivity and *research* in better methods for determining product mix, for market forecasting, for investment policies, for production scheduling, or for evaluating the effects of centralization or decentralization on the long-range operations of the company?

The electronic computers of today and the still more advanced machines of tomorrow are tools—excellent tools, and in many cases the only tools—but still just tools, for achieving

and advancing the "scientific" management and operation of business. Unless we all set our sights high enough for concentrated and increased effort in business research, paralleling technological research, the business world will fail to exploit fully the available potential of these tools.

In order to change the 1968 "science fiction" picture into a practical, economical, and operational reality, we all must engage during the next decade in an accelerated program of research and development to speed the development of scientific management principles and *quantitative* "laws" of business operations.

As we progress, gradual changes and improvements necessary to the exploitation of computer potential will become apparent. Among them will be certain changes in company structure and in methods studies:

- Methods studies of over-all company operations and objectives, as a whole, rather than of individual applications or departments, will become far more common.
- Methods departments will not only be upgraded and organized on a higher management level, but will also be given authority as well as responsibility for performance.
- Part of their work will be devoted to long range plans and operational changes, rather than merely to immediate and pressing fire-alarm situations.
- Department structures will be reorganized according to operating functions and the most direct information flow. This may necessitate consolidation of departments previously reporting to separate managements.
- Procedures will be more formalized and spelled out in greater detail; exceptions will be particularly well-defined in strict and quantitative terms.
- Personnel will be trained gradually to accept the principle of pooling and sharing common data and file information, whether mechanized or not, until the concept of "in-

dividual" and "separate" departmental records becomes a legend of the past.

- Accounting, bookkeeping, and record-keeping departments will become more understanding of operating departments and more closely integrated with them, so that common raw data can be processed to serve both operating and accounting purposes.

These changes in organizational and methods studies are, of course, in progress today in various degrees of sophistication and emphasis.

These efforts alone, however, will not close the gap between computer technology and methodology; we must also develop an increasing sense of urgency towards business research in order to catch up with technological research.

Among the objectives business research must accomplish before management can catch up with technology are these:

Theory of business organization and determination of best channels of information flow.

Definition of management levels and reporting procedures geared to the needs of each management level. The important issue is not how much to report, but the minimum amount of detail required at each level for efficient operations.

Analysis of "management by exception" for the formulation of rules of (a) what constitutes exceptions; (b) to whom exceptions should be reported; and (c) how often they should be reported. It is difficult to determine the "sensitivity of a system," that is, the optimum time lag between the occurrence of an exception or disturbance and the reporting of the exception to the individual or department responsible for corrective action.

Creation of a model of company operations by computer simulation. All the main transaction flows within a company should be incorporated in the model for effective analy-

sis of disturbances and exceptions, their effect on the company operations, and alternatives for remedial action.

Invention of a "business language," so that we are able to use a quantitative and qualitative description of business transactions and information flow. Such symbolism should effect unequivocal understanding, as do the symbols used in the mathematical sciences. Without such a set of universal symbols, it is doubtful that we can create complete models of company operations.

Such a codification would also have a profound effect on programming ease and the over-all cost of programming. Let's not forget that all programming schemes, even the most "automatic" ones, must start with a clear and concise statement of the functions to be performed and a description of the transaction.

I am strongly recommending an accelerated effort towards a common language representation of business operations as an important factor in reducing the cost of methods studies and a real help in any programming effort.

In my "science fiction" presentation of future data processing applications and functions, I used on purpose the terms "automatic decision-making" and "optimum decision selection." Let's examine briefly some of the problems of mechanized decision-making, and adopt an arbitrary distinction between, *one*, decision-making processes on lower management levels (repetitive, routine decisions occurring as a normal part of internal business operations, affecting *directly* a small part of the business) and, *two*, decision-making processes on upper management levels (periodic, non-routine, policy decisions, affecting many departments and operations of the company).

The first of these, the most common repetitive and routine decision-making processes needed for the day-to-day operation of a busi-

ness, are relatively simple from the computer point of view. The most frequent of these are "special action" decisions prompted by deviation from quantitative limits. For example, the computer can "decide" that a requisition or purchase order should be prepared when it notes that inventories of individual parts have dropped below minimum levels; it will flag production or sales that a change in plans is necessary when maximum inventory levels are reached; it will signal that a new credit authorization is needed when maximum credit allowance is exceeded, and automatically approve credit status within the established bounds; it will originate automatic follow-up notices when the maximum time delay allowed for non-payment of bills or installments is exceeded; it will alert management to the probable non-profitability of stocking items on which the level of activity has fallen.

These are only a few examples of simple decision processes in the normal operation of a business that are easily feasible on computers. Most of these follow the pattern of comparing the status of data with a pre-established norm or a minimum-maximum level.

But how are these norms and limits established? In the years to come we must find better scientific means for setting these parameters correctly, for they all have an important cumulative impact on the company's operations and its profit and loss statement. The entire concept of feedback and "management by exception" hinges on the correct quantitative determination of what does constitute an exception and what is the degree of deviation from a norm beyond which a special action must be instituted.

As we progress in our knowledge of "management science," we will be able, I hope, to find mathematical, statistical and analytical techniques to establish better protective stock levels, economic re-order quantities, best individual inventory positions, profitability of individual customer orders, production sched-

ules, machine loading, shipping and distribution patterns, sales quotas, market forecasts, advertising budgets and so on. When we do, then the computer will serve four functions: *first*, to process daily transactions of the business, helping in normal operations and flagging whenever exceptions occur; *second*, to accumulate, as a by-product of its routine functions, in a machine-readable form, raw data for future analysis and summary; *third*, to use the raw, yet machineable, data for periodic analysis to determine whether the criteria introduced for decision-making in the routine operations of the computer are still valid or whether changes are required; and *fourth*, to use the same raw, but machineable, data for selecting among the non-routine policy decision alternatives.

I repeat, however, that the third and fourth functions, the making of upper management decisions, are still far from accomplishment, not because of the technological inadequacies of the computer but because of our still rudimentary knowledge of how to translate business conditions into quantitative and computational terms.

It is promising, however, that at least we *know* how important it is to have the detail data, the raw data in machine-readable form. Whatever the future analytical techniques and sophisticated methods may be, this basic need will always be the same. Thus, it would be foolish to say that the all-important use of computers will be in the so-called "top level operations research" type of computations. It is only by extension of present data processing mechanization through the lower levels of your business that you will be able to collect, as a by-product, and thus to afford, the machine-readable information necessary for the more sophisticated and higher payoff analyses.

TO CLOSE THE GAP

To summarize, the trend in the application of data processing machines is and will be

from single applications to the integration of many functions within a company, absorbing more and more routine decision-making. The rules for these decision-making techniques will also be arrived at through computer analysis. Ultimately, the many facts compiled daily as by-products of integrated operations will permit computer analysis of the over-all management picture in policy decisions.

As we go up the ladder of complexity, however, we find far more shortcomings and unknowns in the theory and art of business than in the electronic equipment itself. As we consider decisions involving more and more variables and more and more intangibles, we find that knowledge of management science is imperfectly developed. Operations research on these problems has barely begun.

Should progress continue at the present rate, computer technology will vastly surpass business science. We are approaching an enigmatic era wherein the machines will be more capable and sophisticated than are the demands being placed upon them.

The task of business research and the necessary advances in quantitative management science cannot be accomplished by the manufac-

turers of electronic data processing equipment alone. This is a joint responsibility for our universities, research foundations, and, above all, American business and industry itself. Colleges should intensify and modify their business administration curricula to include mathematics, statistics, probability, and computer usage as some of the most important factors of the young graduate's education.

Research projects should be started in business language, decision-making analysis, and integrated data flow. Turning to scientific analysis and computation to a greater degree than ever before, individual companies should intensify their methods and operations studies. They may also agree to act as case-study prototypes for academic research.

I firmly believe that we must and that we will achieve, through intensive business research, a degree of progress in management science similar to that achieved in computer development. A universal recognition that we are lagging in our methodology to the point of not being able to use fully our technological potential should spur us to action. If the impetus is dynamic enough, the 1968 "science fiction" may well turn into a practical reality.

If we imagine the whole of earth's history compressed into a single year, then, on this scale, the first eight months would be completely without life. The following two months would be devoted to the most primitive of creatures, ranging from viruses and single-celled bacteria to jellyfish, while mammals would not have appeared until the second week in December. Man, as we know him, would have strutted onto the stage at about 11:45 p.m. on December 31. The age of written history would have occupied little more than the last 60 seconds on the clock.

Richard Carrington, *A Guide to Earth History*.

EDWARD TELLER

Industrial Revolution, 1650-2250

An adventurous nuclear physicist explores the future with the past three centuries of accelerating scientific progress as his guide—and discovers some new challenges for long-range business planning.

I should like to embark on the somewhat hazardous task of predicting the future. Of course, I am quite sure that most of the things I am going to tell you about the future are wrong, but I will be in good company among the false prophets. I will start with the past so as to have some firm basis from which to extrapolate. But in doing so I will get into even greater difficulties than I will in predicting, because when you predict the future, although you are mostly saying wrong things, nobody can prove it; but unfortunately many people will notice with certainty the mistakes that I surely cannot avoid when talking about the past.

I would like to discuss the very dynamic and vital process, the industrial revolution, in a very broad sense, and I try to give myself a little bit of latitude in going back three hundred years and forward the same distance in time. You may wonder how I have arrived at the precise dates, 1650 to 2250. I could have taken as a significant starting date the discovery of America, or the discovery of the steam engine. The date of each of these discoveries is in dispute. For instance one might say that America was discovered by the first

human beings, according to carbon-14 dating methods, 10,000 years ago.

The starting point of the industrial revolution can be based on our somewhat deficient but nevertheless existing knowledge of the curve of human population. It is only a guess that 10,000 years before Christ the human population on this planet was somewhere in the neighborhood of 100,000 souls. This population had grown to a few million at the time of the pyramids. It exceeded a hundred million at the time of the Roman Empire (this was the population of the whole world and not just that of the Roman Empire). During all this time there were periods of faster growth and periods of stagnation and even recession; but on the whole if one puts together the data one notices that the population had been doubling approximately once every thousand years.

This had gone on until roughly 1650, and roughly at that time something happened. From that time on until today the population has increased in an explosive fashion—a little less than 500 million people in 1650, 700 million people a hundred years later, almost twice that number in the middle of the 19th century, and twice as many again at present. The pres-

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ent population of two and a half billion is growing at greater rate than ever. But startling as the growth of population in each of these centuries is, the explosive increase in knowledge and technology is even more remarkable; for in each century since 1650 we have acquired more knowledge and pushed technology further than in all the previous centuries put together.

I would like to look at the world of 1650 first. Europe was just emerging from one of the most dreadful wars, the Thirty Years' War, which had killed more than half of the population of central Europe—not so much by the fighting itself, but by epidemics which followed the path of armies. In England the head of a king was chopped off; in France a magnificent monarch started a rule in his childhood which was to last for 80 years. In other parts of the world, in India and in China for example, no less great and impressive empires were flourishing or getting underway: the empires of the great Moguls in India and of the Manchu dynasty in China.

Had there been any real sign of the coming explosion in population, in knowledge, in technology, that was to take place in the western world? There had been signs, without any doubt. The world had been explored. The western navigators did not only know that the world was round, but had been in most corners of it. They had attached the new continent of America to western civilization.

Another sign was the invention of printing. Of course, the Chinese had practiced it at much earlier times, but we coupled printing with an alphabet which could be more easily adapted to common use and more easily learned.

In science itself there had been a new period of critical thinking and of careful looking. It was noticed that the universe was not just a firm and flat and small piece of earth with outlying districts of darkness around it. By 1650 we had a reasonably clear idea of the solar system. Not that this was new—the

Greeks had heard about it from one of their astronomers, Aristarchos of Samos. But the highbrows of those days did not believe Aristarchos and so the knowledge had been lost again. Galileo's work, however, was the beginning of a really new idea. We started to have a clear conception of how bodies move because Galileo took a more critical, simple, and daring approach than anyone before him.

In the next hundred years, from 1650 to 1750, a very great deal happened. This century at least doubled all knowledge which had gone before, as it doubled our population. If I may start with my proper field, physics, there is of course the work of Newton with its important insight: that the laws of the world here on earth and the laws of the world in the heavens are the same; that the way in which an apple falls and the manner in which a planet moves both belong to the same general and understandable scheme of nature. We are so accustomed to such a universal law that we are apt to forget how very recent this idea is and that there used to be in the minds of people a great distinction between what is here on earth and what is up there in the heavens. At the same time Newton's discoveries made it possible to exploit the newly understood science of mechanics by constructing machines that can do useful work. This possibility, however, was to remain dormant for a century.

In our knowledge of the living world, there was progress also. The microscope (discovered before 1650) was turned onto a great variety of small objects. Leeuwenhoek saw with amazement the unsuspected structures of living bodies and the busy populations of tiny beings that could be found in a drop of water. Toward the end of this period Linnaeus started carefully to classify the animal and vegetable kingdoms in a systematic fashion. For the first time in history people began to classify disease itself and correspondingly to select the appropriate kind of treatment for the various kinds of afflictions.

It is not generally realized that in technology itself an important change occurred in the period 1650-1750: the British Isles ran out of firewood. People started to use a substance which they considered a poor substitute: coal. They soon found that in the higher temperatures that can be reached by coal fires, iron can be treated more easily. As a consequence, iron and steel, which had been very expensive materials, began to compete with bronze. This was the real beginning of the Iron Age. Now for the first time iron was cheap enough to make it available in peaceful economy as well as in war. The road was open both in science and in the availability of a cheap metal for the industrial revolution (in the narrow sense) which was to occur in the next century.

We start the discussion of the following century, 1750 to 1850, also with a look at science. There is first of all the big discovery of a new science: chemistry. The confusion called alchemy had preceded it. At last we were beginning to have a systematic notion of the properties of matter. In the same century we started to understand the nature of light, electricity, and magnetism, and at the end of that century was the first measurement of the distance of a fixed star. It was little more than a hundred years ago that Bessel in Germany found that light takes a few years to come from one of the closer fixed stars to us. Before that time the solar system appeared to be surrounded by stars that shone from a distance that was beyond our range of measurement and may have seemed beyond our power of imagination.

In the same century the cellular structure of all living beings was discovered. Instead of a mere classification of the animal and vegetable kingdoms people started to worry about correlations and kinships. Paleontology, the history of life, was established mostly by the brilliant work of Cuvier. Lamarck had some correct ideas about evolution, without a complete proof. Just after the end of that century, Darwin replaced our picture of a living world re-

volving around man by an idea more modest and yet more magnificent.

Medical science advanced along with biology. Progress was made in the fight against epidemics by the first sensible measures of hygiene. Thus city living became safer. Crowded humanity was no longer completely helpless under the scourge of pestilence.

Finally this was the century of which most of us think when we talk about the "Industrial Revolution." Machines began to take over the burden of human and animal muscles. This was made possible by the steam engine. Moderately rapid transportation and communication became possible. The face of the earth changed rapidly and a part of it became more like our present world.

Also in this period, the various portions of our planet started to interact, sometimes by the processes of trade and colonization, sometimes through the cruel experience of war. The century was literally filled with wars—the Seven Years' War, the fighting on the North American continent, and the disasters of the Napoleonic victories and defeats.

When I talk about the next century, from 1850 to 1950, I am beginning to talk about our own age and now so much material springs to my mind that I will necessarily have to limit myself to the most important topics. As in previous hundred-year periods, I feel sure that the process of learning and development has gone on in a greatly accelerated way so that each of these hundred-year periods has accomplished more than all previous times put together.

In the physical sciences we have understood something which I can summarize in an exceedingly few words, but whose importance you perhaps may underestimate if I state it so briefly. We have understood—and completely understood—the structure of matter. We could in principle calculate, and we can in many cases explicitly calculate, why each piece of matter behaves just as it does. In other words, we have brought about a very thorough integra-

tion of physics and chemistry. And yet chemistry is not a completed and dead science.

The molecules have a way of growing on and on, becoming ever more complicated. In a way which is strange and not understood they can become as complicated as ourselves. And physics, on the other hand, is by no means dead because it managed after the junction with chemistry to branch off and look into smaller regions still: into the atomic nucleus and into high-energy particles.

Apart from having understood the matter under our hands, having understood the really microscopic world, we have also gone into the opposite direction and we have gone on from the knowledge of the distance of the next fixed star to a knowledge which seems to include an incredibly rich universe. Our sun is one star in many billions, making up a spiral nebula, a spiral array of stars in the Milky Way system. Furthermore this Milky Way system is one of billions, literally billions, of further Milky Way systems. And the end is not yet explored by our telescopes. The proper way, the proper science with which to move in these big dimensions is the theory of relativity. From the investigation of the universe and from the theory of relativity, we begin to get information about the really distant past: not what I should call the beginning of the world, but at least a time when we know for certain that not only the solar system, not only our Milky Way system, but the collection of all the Milky Way systems together must have looked very different from what they look like now. This seems to have occurred some 7 billion years ago.

We turn from here to the more intimately important life sciences. The past century was a time when we finally understood the laws of inheritance. The germ theory of infectious diseases was developed. With the help of modern drugs and antibiotics, we could proceed to prevent or cure most of these diseases. The art of surgery advanced so that a person could be cut up and thereby greatly benefited. I say

that very gratefully: I have been cut up several times and always came out the better for it.

The inventions of technology were as fantastic as the discoveries of science. We know how to fly; we unfortunately know how to drive; we have telephones and television, and other gadgets of electronics which bring the continents into closer contact than existed in 1850 within a single country.

With such an acceleration in the process of development, *where* do we go from here? Well, talking about the future I will have to say less and less about science and more and more about applications, because of all the unpredictable things, science is the most unpredictable. After all, the business of a scientist is to find things that nobody has even thought about before; so how can one even attempt to predict what he will think of next? Well, I will try to do so anyhow.

Maybe in physics within the next hundred years we will begin to make order among these new so-called elementary particles which are neither elementary nor particles and which begin to be today almost as numerous as the atoms in the periodic system of elements. Perhaps we will find out more about the universe at large. We are beginning to pay more attention not only to light obtained from stars, but to radio signals; we hear radar noises and with the help of these it seems that we can see into greater distances populated by galaxies.

Furthermore if we succeed, and we shall succeed, in getting to the moon we might erect an observatory there. We shall no longer look out at the universe just in a few wave lengths in the visible light and in the radar region from the bottom of our murky atmosphere; we will be able to look at the universe in all wave lengths, from radio waves to x-rays. We might get a better idea how this enormous and miraculous thing started which we call the universe.

Recently we have embarked on a very active development of computing equipment. On the University of California's Berkeley campus, a

very unglamorously named 701 IBM machine has been installed. This is one of the slow-pokes among the new machines, being able to perform no more than some 10,000 multiplications in a second. Better machines will soon be available first in UCLA and then in Berkeley. These machines imitate many functions of the brain in a remarkable fashion. We can use them to relieve ourselves from mental drudgery and we shall be able to exploit our theoretical knowledge of matter by making elaborate calculations. We shall acquire in this way much more complete control of the materials which we use in building our industrial world.

Having understood as much as we did about the nature of matter, our interest will be drawn irresistibly toward the ever more complex combinations of atoms which are the parts of living bodies. In fact, I have a most spooky feeling. I really do not believe that what I consist of is nothing else but matter and complication, but certainly I do consist of a bit of matter and an incredibly big amount of complication. We might find out the details of this complication, of how the long chains of molecules are tied together. These coiled molecules look like codes carrying unknown messages, they look like strange symbols handed on from one generation to the other, so that each generation may know how to build its body. One has the feeling that if one looked into the details one would have learned a lot more about life. One would have answered a lot of questions and one might have learned, perhaps surprisingly and painfully, that a number of questions that are asked as a matter of course today should never have been asked because they are devoid of any sense or significance. In other words, we might either learn how to answer or how to ignore the question, "What is life?"

Now what will all of this mean in practical terms? The world has become exceedingly small; no one can do anything without influencing his neighbor; no one's neighbor can do anything without influencing him in turn. It is

obvious, and we have all heard it and we have all said it, that some sort of law and order must be produced so that we can live peacefully together. I am absolutely certain that this will happen in the next hundred years. Whether it will happen after a violent and bloody war or whether we shall find a peaceful way of development and agreement is the big question facing the next generation. But I am sure world civilization will survive. The question, and it is a most important one, is whether it will survive as a free community. But no matter what will happen, there will be law and order and peace a hundred years from now.

Many people worry about another problem. This worry has been started by the most false of all false prophets and the most plausible one: Malthus. Even if we survive a war, will the globe be able to support us? It is my conviction that there will be indeed plenty for everyone and for a long time to come. By using our past and future scientific knowledge it will be possible to provide a decent standard of living for all the people.

I should like to mention three technical developments which I think are likely to occur. One is that we will have enough energy for the obvious reason that we have atomic energy. We do not yet quite know how to use it safely and economically. But all this will be well explored and well understood.

Next we shall learn how to influence weather. This will be a terrible thing because we shall lose in this way the last safe topic of conversation. People will feel much more violently about weather than they feel now about politics. Of course, there will be a conflict of interest between nations, each of which will want to get its appropriate share of rain or sunshine. This is a further reason why we need to find ways in which to live together peacefully. If we can agree the benefits will be great. With controlled weather we shall be able to grow more food.

This brings me to the third topic: having

understood more about biology we shall find more ways to provide ourselves with food, some of them chemical, and some of them exploiting new areas of our earth. The most fertile part is the cradle of all living beings—the ocean. In addition to horticulture and agriculture, then, we shall develop mariculture, the development of all the seas for human uses. Our present means of fishing are not much different from those of the Stone Age. But before we can bring the waters of our globe under cultivation we should learn how to cooperate with each other. International difficulties will arise unless we will have found earlier a way to live peacefully together.

From 2050 to 2150 we shall have many more problems. The population which in 2050 may be 7 billion will rise by 2150 to more than 20 billion people. I think there will still be enough food and still enough energy, but there may not be enough room at that time. In other words, the multiplication of human beings is likely to lead to this problem: How shall we live with each other?

Young people in those days will think more and more about finding some isolated spot. We might start to colonize planets outside our solar system. Of course, even today you can see that the younger set of the television viewers is already ardently interested in this problem. I do not know how to solve it. But where billions have a will there may be an interstellar way.

The progress of biological sciences will have another consequence. People will get to live longer and longer. Anyone who dies before his 100th birthday will be said to have died in his youth. As we grow older and more reasonable we shall all become Republicans. With the youngsters starting off for the planets of distant suns I do not know how the two-party system will be maintained.

I have told you earlier that before 2050 a firm world organization will have been introduced. One may dream of a crisis of this organization during the century 2150 to 2250. There will be a young and promising colony on a planet at a distance of 17 light years. As all other such places, this planet will be governed at least in important policy matters by the experienced people here on earth. This government will have become slightly cumbersome. Any question put to the highest council will require 17 years to arrive. Some time will be spent making a decision, and then, 17 years will pass again while the answer goes back to the vigorous people of that planet. During the century 2150 to 2250 this young and promising colony will declare its independence from mother earth in a most ungrateful, obstinate and wrong-headed way. The unity and stability of the world will be lost.

. . .

And what will happen after that I really cannot guess.

Periods of tranquility are seldom prolific of creative achievement. Mankind has to be stirred up.

Alfred North Whitehead

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WILLIAM H. KNOWLES

Human Relations in Industry: Research and Concepts

This critical survey of the study of human relations in industry finds a "mystical, cultist" trend as well as "useful" applications of social science research and concepts.

The causes of labor unrest and worker dissatisfaction in all their manifestations—from strikes and riots to passive insubordination—are a challenge to man's wit. Reformers of all kinds, revolutionaries, politicians, labor leaders, novelists, social scientists, and personnel managers have suggested ways to bring about labor peace and worker satisfaction. The problem has proved to be complex and stubborn. It remains with us, although it takes on changing forms.

The latest group to attack human problems in industry are specialists in "human relations," who approach industrial relations through the study of small-group behavior, and whom we shall call "human relationists" for want of a better term. They are sociologists, social psychologists, clinical psychologists, psychiatrists, social anthropologists, and, to a lesser extent, political scientists, who study small, informal groups.¹ Many human relationists have entered the field via schools of education, introducing into human relations the ideas of John Dewey and the concepts of pro-

gressive education. Only the economist and the historian have been left out of the interdisciplinary team.

A basic tenet of human-relations theory is that primary groups (the family, work crews, union committees, church and lodge groups, bowling clubs, etc.) are fundamental units of society, and that study of them yields a better understanding of the individual, the organization, and society as a whole. Specialists in *industrial* human relations are concerned with the behavior of informal groups at all levels of a business organization. In addition to research in industry, industrial human relationists apply research findings from the study of such diverse groups as ladies' sewing circles and army combat teams to work groups within the industrial setting.

EVOLUTION OF TRENDS

Human relations in industry began with the work of Elton Mayo and his associates, and developed from their classic studies at the Hawthorne Plant of the Western Electric Company.²

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Their findings about the informal organization, informal communication, and the informal work group have been reported interminably and their value judgments and philosophical framework have been the subject of a major debate in industrial-relations literature.³ As the result of this debate, the propositions of the original Mayo group of human relationists at Harvard have been modified. Although individual human-relations specialists vary in their beliefs, in general it may be said that human-relations concepts since Mayo have been modified as follows:⁴

- Human relationists no longer hold out the hope of developing an exact science of human behavior and social organization. In the tradition of the scientific managers, the industrial (behaviorist) psychologists and sociologists of the Durkheim positivist school, human-relations specialists in industry once hoped that laws of group behavior and industrial organization could be discovered, making prediction and control possible.⁵ If anything, some human-relations specialists now tend to go to the other extreme and proclaim that true understanding of human behavior is subconscious, subjective, and non-rational rather than intellectual. There tends to be an anti-intellectual, mystical element in present-day human relations.

- Although Mayo and his group tended to emphasize irrational motives as causes of industrial conflict, human relationists now recognize that such conflict may be a form of rational economic behavior, and that economic incentives are often a strong motivating force.⁶ On the other hand, economists must concede that there are other things in life besides money which men seek to maximize. The study of motivation has proved to be complicated and has yielded little of use to management and union leaders.

- The discovery of the informal organization in industry (with its own communications net apparently independent of the formal one),

which is sometimes the "real" organization for getting work done, at first led many human-relations experts to deprecate the importance of a conventionally drawn table of organization. They now recognize that the informal organization cannot always adjust itself to production and to the solution of the personal problems of the work force within the structure of the organization. The structure of the formal organization itself may be the actual cause of both production and personnel problems. Dissatisfied with traditional organization theory, specialists in human relations are seeking a reformulation of the principles of organization. Although they have made specific suggestions for the improvement of the formal organization, they have not yet produced a general theory of organization based upon human-relations principles.

- Earlier human-relations specialists in industry tended to study the work environment as a closed social system and to ignore such external factors as economic conditions, the community, and the internal politics of the union.⁷ Human relationists continue to emphasize the primary social group as fundamental to an understanding of both individuals and society, but they also recognize the importance of economic, political, and social factors. The earlier preoccupation with the work group was related to a philosophy which held that the external environment was essentially cold, hostile, and unfriendly and that the psychic needs of man could be best served in a kind of industrial monastery. Most human relationists today reject this romantic philosophy of "escape from freedom" and argue that the goal of human relations is to develop individuals who can be effective in many groups. Most of today's human relationists are proponents of the open society rather than of industrial feudalism.

- Just as human-relations theorists now give greater weight to the formal organization and to the external environment, they also weight

more heavily the importance of the individual—his values and his personality—in assessing the behavior of the group. Although psychologists may still be criticized for ignoring the influence of the group on the individual, psychologists-turned-human-relationists have tended to re-emphasize the importance of the individual in shaping the attitudes and values of the group. By placing stress on the social group, some human relationists have supported a philosophy of “togetherness” and the denial of individualism. Once again we are faced with the debate on human nature and the natural order of society. Recent human relationists have reasserted the importance of the individual by stressing the desirability of developing social groups that can be effective without infringing on the individual’s right to privacy by tolerating a high degree of nonconformity.

• In giving management the role of a benevolent, paternalistic, “natural elite,” which understood the true needs of the worker better than the worker did himself, early human-relations literature (in the tradition of pre-World War II management-oriented labor-relations literature, seems basically authoritarian in philosophy.⁸ Although this view still lingers, most human-relations specialists have become proponents of industrial democracy as a result of their more recent research in industry. The reasons for this, and the means by which democracy in industry is to be achieved, are a central theme in current industrial human relations and will be taken up later in this paper. Whereas pioneer human relationists were attacked as authoritarians and lackeys of management, the present stress on industrial democracy has caused criticism of another kind: that human relationists are “misty-eyed” idealists whose preoccupation with the rights and dignity of the individual causes them to lose sight of the need for efficiency and profits.

• Early human-relations literature was notable for the absence of any extensive discussion of unions and for naiveté as to the unions’ func-

tion and purpose. The authoritarian philosophical overtones of the Hawthorne studies were anti-union. Today’s industrial human relationists understand unionism, recognize the unions’ value in industrial relations, and study human-relations problems within the union itself and in union-management relations.⁹ More sophisticated human relationists have no plans for “taming the union,” for making the union leaders a second-class nobility in the management elite, nor for establishing an era of unbroken union-management harmony. Just as there is no human-relations organization theory, the exact relationship between human-relations concepts and those of traditional unionism and collective bargaining has not been spelled out, though they do appear to supplement and complement one another.

• Elton Mayo spoke of developing human-relations skills in management to resolve problems of industrial unrest, and was attacked for his manipulative approach to employee-employer relations. Present-day human relationists go to the other extreme of being anti-technique. “Manipulation” has become a dirty word. Today, human relationists hold that basic personality changes are necessary to “good human relations” and that simple techniques of getting people to do what they do not want to do are not only morally wrong but ineffective.¹⁰ Manipulation as a continual one-way process may be generally impossible; it does not, however, seem reasonable to say that you cannot sometimes manipulate another person—that is, get him to do what you want him to do.

• The Hawthorne and subsequent studies revealed the communications problem of modern industry, and stress was laid upon *channels* of communication, semantic problems, and frames of reference. The inference drawn from the studies was that if individuals could understand one another this would remove the *major cause* of industrial discontent. Latter-day human relationists realize that there are “real”

causes for discontent, not arising from mere misunderstanding or lack of information, which are removed neither by channels of communication nor by catharsis. The communications problems raised by early human relationists are not dismissed, but are placed in their proper perspective. The present concern of human relationists in communications is with interpersonal, nonverbal communications invoking subconscious, vaguely-felt emotions.¹¹ Communications research is currently involved with the phenomena of perception, subception, and empathy in group interaction.

• Pioneer human relationists appeared to be unaware that their conclusions from field research carried ethical inferences that did not inevitably follow from the studies. Critics pointed out that alternative inferences from the same findings were possible. Human relationists are now more sophisticated and take care to distinguish between findings of fact and value judgments. Initially, human relationists hoped to reduce ethics to a science, and in the process of organizing a scientifically-constructed society, economy, and social group, they expected that all interpersonal relations would be placed on a scientifically ethical basis.

Although present-day human relationists have abandoned the search for an exact science of society and human nature in the sense of prediction and control (as noted previously in this section), the quest for a scientific basis for an ethical society still goes on. Clinical psychologists working with social anthropologists believe that some societies, economies, organizations, and systems of values are conducive to mental illness and that others more in harmony with man's nature produce satisfactory mental health. If mental health can be equated with ethics, there is a scientific basis for recommending some kinds of organizations, values, and leadership styles over others.¹² While many may dispute this line of reasoning, it is refreshing that human rela-

tionists are now concerned with the discovery of a suitable industrial environment for mankind rather than continuing the pre-World War II emphasis on "adjusting men to machines."

MAJOR CONCEPTS IN HUMAN RELATIONS

*Interrelatedness of Personality, Primary Group, Organization, and Culture:*¹³ These concepts are the building blocks of society, and all of them are related to one another. An individual's personality, attitudes, and values are to a large extent shaped by the primary groups to which he belongs or has belonged; but, conversely, primary groups are a reflection of the values, attitudes, and personalities of their members. Most human-relations research has been an examination of the relationships between the individual and the group. Research has revealed, for instance, that personality change does take place as one changes membership in groups, that it is easier to change the attitude of the whole group than to change that of an individual member, that an individual gets more of his values from membership in primary groups than he does from the organizations to which these groups belong.

Similarly, the character of groups is in part shaped by the organization and the culture just as the organization is shaped by the culture and the groups. Culture, in turn, is the product of individuals, groups, and organizations. The complexity of these interrelationships explains the difficulty the political reformer has in attempting to bring about change from the top—the corporation president trying out a "new broom," the foreman seeking to change the habits of his crew, or the teacher trying to influence individual behavior.

The human-relations approach to the problems of industry is to assert that some combinations of personalities, groups, organizations, and cultures produce conflict, frustration, and mental illness and that other combinations produce harmony, satisfaction, and

mental health. The neurotic family is likely to produce neurotic children who may be well-adjusted to the neurotic groups and organizations they will join in their neurotic culture. Likewise, healthy individuals, groups, and organizations within healthy cultures interact so as to reinforce each other.

This framework of interrelationships is a very broad generalization. There can be frustrated, overly-aggressive groups and individuals within otherwise healthy organizations, and the opposite may also be true. Moreover, there are many kinds of personality types, groups, organizations, and cultures that are healthy and as many kinds that are unhealthy. Clearly, it is no simple this-or-that relationship. Human relationists have no vision of a static society of placid individuals in passive groups. Organizations, individuals, and groups are dynamic, the direction of their change is largely nonpredictable; but in the process of change the conditions for mental health can be preserved.

Personality Problems: Psychologists continue to be perplexed by the infinite variety of personality traits (dimensions) and patterns (syndromes) which seem to defy analysis. Human-relations specialists in industry, however, single out two personality patterns as important to an understanding of the problems of industrial unrest. The first is the authoritarian personality, a personality which tends to be emotionally unstable, to repress facts which are contrary to belief, to be insensitive to the feelings of others, to wrongly estimate the goals of others, and to think of people and of problems in rigid stereotypes. Such a personality type has serious communication difficulties; he has no understanding of his own subconscious feelings, he has difficulty expressing his feelings and in understanding the feelings of others, he tends to judge too soon, and he does not know how to listen to others.¹⁴ Non-authoritarian, or democratic, personalities have the opposite tendencies.

Human-relations research indicates that the authoritarian personality is common in American industry and a basic cause of much conflict and misunderstanding. Economic issues and power struggles will always be present, but many conflicts which appear on the surface to be economic or to be power struggles are in reality the problems of sick individuals. The treatment of the authoritarian personality would eliminate a major source of industrial unrest and inefficiency. Conversely, no amount of smooth channels of communication or precision in the use of words will help the authoritarian who cannot listen and who thinks in stereotypes.

Another personality syndrome in industrial society that is stressed by human relationists is the *frustration-aggression pattern*.¹⁵ Frustration arises out of the organization of modern industry and urban living in which individuals have casual relationships with many people but have few intimate friends. The result is a lack of "belongingness" to work groups, neighborhood, or even to family. Research indicates widespread frustration arising also from dull, monotonous jobs lacking in creativity and self-expression, from poor supervision, economic insecurity, and emphasis on economic incentives to the exclusion of nonmaterial incentives. The consequence of frustration is aggressive behavior, which only aggravates rather than solves frustration. Carriers of the mental disease of frustration can infect work groups and whole organizations in this manner.

Research suggests that no correlation exists between "normal personality" and work satisfaction or supervisory ability. A general relationship seems to exist, however, between dissatisfaction on the job or lack of supervisory ability and a) dissatisfaction with things in general, b) lack of friendliness and identification with social groups, c) emotional imbalance and lack of understanding of personal psychological needs, d) poor interpersonal relationships, intolerance of the psychologi-

cal needs of others, and insensitivity to the communication of those needs, e) tendency to be unrealistic, arbitrary, and inflexible, and f) an unhappy home in childhood, with a repetition of the pattern in adulthood.¹⁶

The Work Group: The social group is the center of focus of human relations studies in industry.¹⁷ By measuring the roles and status of group members, human-relations specialists study the structure of work groups. By analyzing communication networks, they relate the formal and informal organization of the group to other groups and to the organization as a whole.

One important variable in the behavior of groups and their members is the degree of group cohesiveness, and human relationists are concerned with the causes and implications of cohesive work groups.¹⁸ Another important variable is leadership, which the human relationists consider to be a function of group behavior rather than a characteristic of the individual in the leadership role. A leader can shape a cohesive group, enforce its norms, and change its norms only under certain conditions because he must first gain the acceptance of the group and meet its norms. Human relations, then, studies the nature of leadership and the relation of informal leaders, appointed outside leaders (foremen), elected leaders (shop stewards), multiple leadership, and shared leadership (leaderless groups) to the work group.

Emerging from a multitude of studies the following conclusions appear:

1. Informal social groups exist in business and industry. The fact of their existence is important to both management and the worker.

2. Work is a social experience and most workers find satisfaction in membership in social groups. Accordingly, lack of a cohesive work group leads to low morale as expressed in absenteeism, turnover, and malingering.¹⁹

3. A work group may be cohesive in maintaining low production standards, resisting change, hostility towards supervision and/or other groups, denying membership to newcomers, and demanding strict conformity of its membership. On the other hand, a cohesive work group may have high work standards, accept technological change, be friendly to other groups, cooperate with supervision, and have minimum unwritten codes of conformity for membership.

4. Three factors seem to be important in securing the more desirable kind of cohesive group: leadership of a democratic style rather than an authoritarian or a laissez-faire style,²⁰ a climate which allows a high degree of participation on the part of the group in decisions affecting its work,²¹ and—finally—a type of general organization which permits this kind of group, leadership, and participation in management.

*The Organization:*²² Not only do business enterprises tend to be dominated by authoritarian personalities, but the management hierarchy by its very nature tends to be authoritarian and the traditional rules of organization contrary to democratic human-relations principles. Consequently, mature individuals with normal personalities are driven away or frustrated by the very character of the business organization. Research indicates that attempts to train supervisors in the democratic style of leadership in order to build effective work teams fails because such a primary group cannot survive in the authoritarian environment of the company as a whole.

The key to industrial peace lies not in "adjusting the worker," in the pre-World War II style, but in adjusting top management. The leadership criteria for good supervision should also be applied to top management, so that an organizational climate will be created in which effective work groups can operate. Corporate organizations following human-relations principles would be decentralized for wide partici-

pation in decision-making (because people resist goals that are imposed upon them but become committed to goals set by their group). Their structures would be viewed as interlocking, overlapping groups rather than as pyramids of superior-subordinate relationships between individuals. Accordingly, the traditional problem of delegating authority and responsibility (span of control) would be restated in terms of maintaining communications between groups. And, further, the supervisor's job would be changed from that of giving orders and maintaining quality and quantity standards to that of being spokesman for his group in its relations with other groups and maintaining an effective work team which sets its own goals, solves its own problems, and disciplines its own members.

The Culture: Human-relations research reveals that these findings on personality, groups, and organizations are relevant mainly to the culture of the United States, and cannot be applied in wholesale fashion to other cultures. Those raised in authoritarian cultures, with authoritarian families and institutions, do not function effectively in a democratic climate. On the other hand, the United States has a long cultural tradition of democratic values.

Most American institutions, including the home and the public-school system, are democratic; in being authoritarian, business organizations are out of step with the cultural environment. In the past, industry could violate human-relations principles which are in harmony with American culture, so long as not many people were affected and so long as economic coercion was possible; but now, with the growth of industry, more people are affected and full employment and the spread of unionism make economic coercion less workable.²⁹ Moreover, as William H. Whyte correctly observes, human-relations principles gain much of their impetus from the growth of a middle-management class who are in revolt against the rugged individualists of top man-

agement. Finally, industry by its very success in creating wealth has caused men to turn from preoccupation with mere economic survival to a concern with a work environment and way of life which permits a greater degree of self-expression and creativity. (In this connection, human relationists refer to the demand for greater "self-realization.") In brief, our heritage is democratic and there is a general social movement for a more humane, dignified treatment of the individual, and industry is adjusting to this cultural demand.

Human-Relations Training: Training in human relations has become very popular. Many have relabeled their traditional training programs to capture the popularity of the term. Actually, human-relations training has its own body of theory and teaching method. At the outset, let it be noted that the goal of human-relations training is to bring about the changes in personality, groups, and organizations reviewed in the preceding sections.

• *Training Theory and Goals:*³⁰ Training theory in human relations comes from four closely related sources: group dynamics, clinical psychology, progressive education, and the case method as practised by the Harvard Graduate School of Business Administration. A basic proposition is that most, if not all, learning situations take place on an emotional rather than an intellectual level. Accordingly books, lectures, and visual aids that appeal to conscious reason may bring intellectual understanding or even a change in attitude, but will not change *behavior*. Learning by doing means, then, having an emotional experience. From the viewpoint of the clinical psychologist the major obstacle to learning is not lack of brain cells but emotional maladjustments which cause the individual to distort, or to close his mind to, facts and reality. Accordingly, the learning theory and the theory of therapy for the emotionally disturbed parallel one another.

Although these theories may be challenged as being too inclusive, there is ample evidence

that they do apply to problems in human relations. Personality problems prevent individuals from understanding their own difficulties and from being effective in interpersonal relations, and prevent their being sensitive to the needs of others. Lecturing, under these circumstances, increases resistance to change instead of bringing change about. It is no wonder that many executive-development, foreman-training, and salesmanship courses have had little success in actually changing leadership style or sales approach.

Some educational theorists believe that there are subject-matter areas that do not lend themselves to orderly analysis. Any principles that emerge from analytical study are so general as to be of little use to the practitioner in specific situations. Theory only causes the practitioner to be introspective when he should be acting, and a kit of how-to-do-it techniques may be clumsily applied to the specific case.

The goals of human-relationships training programs are:

a) To gain a better understanding of one's self. To "know one's self" may range from resolving subconscious emotional conflicts to becoming aware of how others react to one's mannerisms.

b) To broaden and sharpen sensitivity to the feelings of others.

c) To develop respect for others and to accept individual differences. Reasonable as this may appear, human-relations trainers find that an underlying cause of industrial conflict, often not consciously stated, is conflict between age groups, between male and female, between ethnic groups, or between those with varying physical appearance.

d) To establish the belief (rejected by authoritarians) that kindness is not a weakness.

e) To treat all human-relations problems with a clinical approach—to be sympathetic and understanding as if seeking a cure for

illness rather than to blame or make accusations as to motives.

From these goals follows a further goal of human-relations training: the overcoming of barriers to interpersonal communication in order to reduce conflict that arises from misunderstanding.

• **Training Techniques:** One important training technique in human relations is the unstructured (free-floating) discussion.²⁵ Group psychotherapists have learned that people with mild emotional difficulties can be helped through group discussion, which avoids the time and expense of psychoanalysis. Although this is not the place to review the theory of group psychotherapy, it should be noted that it has been successful in rehabilitating ex-prisoners of war, alcoholics, the physically handicapped, criminals, and juvenile delinquents. The same theory and techniques apply in sensitivity-training and leadership-development laboratories; group discussion of emotional problems has a therapeutic effect leading to a change in behavior. There is no denying emotional involvement in this learning situation.

A second training technique has resulted from the clinical psychologists' discovery that a patient gains relief, insight, and understanding if allowed to act out situations that seem emotionally disturbing. This therapeutic technique—called "psychodrama,"—is applied to industrial situations under the name of role playing.²⁶ The student is confronted with a variety of typical industrial human-relations problems in which he can play different roles and practice different ways of dealing with the problem. Here again, the student learns no theory or technique, but he becomes more aware of his own style of behavior and its effect on others; he learns to understand others by playing their roles. He learns because he becomes emotionally involved.

Clinical psychologists have provided also a

technique of counseling described as permissive, called "nondirective" counseling.²⁷ The counselor is a sympathetic and understanding listener who mirrors the feelings and thoughts of the patient and responds to his unstated emotions. The patient discovers that he must define his own problem in order to reach a solution by himself. The counselor only offers understanding and encouragement. Again, this is not the place to give a detailed account of the theory, but the technique is of therapeutic value.

Since many problems of employees are of the type that can be handled by counselors, human relationists have recommended that counseling be made a service of the personnel department. This recommendation has not taken hold. Some human relationists recommend also that everyone in the management hierarchy be trained in the techniques of nondirective guidance as a method of dealing with human-relations problems. If every supervisor practiced nondirective counseling, he could overcome subconscious resentment to him as an authority figure, improve communications, and deal with the subconscious personal problems underlying many production problems. In short, training in nondirective guidance is training in a leadership style desirable in democratic work-groups.

The study of cases is a fourth technique used in human relations training.²⁸ As the Harvard Business School is deeply committed to the case-study approach for the teaching of skills in business administration, it is not surprising that their human-relations training program places emphasis upon case studies in human relations. Rather than to produce a therapeutic or cathartic effect, the Harvard Business School's objective in human-relations training is to sharpen understanding in an area where there are no general rules and no "right answers" by offering the students "concrete" situations which will permit them to develop a feel for human-relations problems.

CRITIQUE OF HUMAN RELATIONS RESEARCH IN INDUSTRY

Scientific Validity. A fundamental objection to the conclusions derived from human-relations research is that they are not supported by adequate scientific evidence.²⁹ In spite of the bulk of the literature pertaining to human relations in industry, conclusions are based primarily upon four studies: the original Hawthorne study, the Harwood Manufacturing Company study, the Glacier Metal Company study (English), and the comparative studies of the University of Michigan Survey Research Center involving the Prudential Life Insurance Company, the Detroit Edison Company, the Baltimore and Ohio Railroad Company, and the International Harvester Company. Except for the Survey Research Center's studies, the findings may be challenged on the grounds that the company environments selected for study are not typical of industry generally.³⁰ Human relationists have got a lot of mileage out of four studies. The human relationists deny this charge and point to a growing body of research involving a wide variety of industries and work groups. As classics in the human relations field, these four pioneering studies are most frequently cited, since subsequent studies seem to support the original findings.

Another argument to dispute the scientific validity of human-relations studies relates to the nature of their controlled experiments with small groups. First, the experiments involved school children, college psychology classes, and soldiers. The question may be raised (but not conclusively answered) whether work and management groups are comparable to the experimental groups. Second, do findings based upon temporary, *ad hoc* groups apply to groups that have a continuing relationship with one another? Third, it is pointed out that there is no power relationship in the experimental groups other than the "social power" of personalities, whereas economic power is a real

factor in most relationships in industry. Fourth, there is a suspicion that experimental groups are so designed as to prove the hypothesis of the experimenter. (It would be interesting to design an experiment to test the hypothesis that autocratic leaders are more effective than democratic leaders, or that democratic, group decision-making will result in greater resistance to change.) In other words, experiments proving one set of propositions in human relations do not necessarily disprove other sets of apparently opposing propositions. To these criticisms human relationists reply that they do the best they can and will welcome suggestions for better ways of studying small-group behavior.

Finally, some critics question the scientific foundations of human relations on the grounds that much of its theoretical underpinning depends upon findings in clinical psychology, which is concerned primarily with treatment rather than scientific research. Thus its main conclusions are based upon "clinical insight" rather than upon controlled experiments.³¹ Laymen are often amazed at the ingenuity of clinical psychologists in interpreting complicated, contradictory facts so as to create a unified picture and a reasonable, though long, chain of causal relationships. Others join the game by analyzing the psychologist rather than analyzing his analysis—which in turn permits the psychologist to analyze his critics rather than their analyses of his analysis. Clinical psychologists readily admit that they practice no exact science comparable to the physical sciences and charge that those who attempt to do this, like the experimental psychologists, are doomed to failure by the very nature of the problem. Rather than attempting to build an exact science, clinical psychologists try to be scientific in their attitude and in their insights. They are impressed by the consistency of patterns relating personality problems to childhood background, occupation, and group membership. Their accumulation of cases which indicate

consistent patterns, while not conclusive, is impressive.

Emphasis on Group. A second criticism of human-relations theories is the major theme of William H. Whyte's *The Organization Man*.³² Human relationists are charged with denying individualism—which is part of our pioneer heritage, political liberties, and laissez-faire tradition—through human-relations training (collectivism in progressive education) and by seeking an environment which exalts the group. The discipline of the boss and of the organization, which can be resisted, is replaced by the discipline of the group which becomes internalized as self-discipline. As a consequence the individual loses his personality in stifling conformity to group norms. The point is well taken against those human relationists who claim that the group is more important than the individual, that the individual's values, attitudes, and personality are mere reflections of those of the group, and that his security, happiness, and status are dependent upon his membership in groups.³³ Such a conclusion from research in group behavior leads to the metaphysical proposition that the individual finds his true self and gains his liberty by completely losing himself in a group.

It is improper to describe the entire human-relations movement as anti-individualist, since other human relationists state the problem of group conformity in a different perspective. They point out that for most of human history man has been intimately tied to one single group—the family, which integrated economic, religious, social, political, educational, and recreational activity within a single group. (Social anthropologists observe that primitive peoples do not think of themselves as individuals but identify themselves completely with their group.) Modern society, however, permits membership in a great variety of groups having a variety of norms and values, and permitting a greater variety of personality types. Freedom to be an individual, to select or re-

ject groups and their norms, and to belong to many different groups, is a relatively new experience that humans have yet to master. Instead of returning to primitive society, these human relationists favor the development of mature individuals who can take advantage of the freedom offered by industrial society to achieve self-realization.

To an increasing degree, however, work involves "dealing with people, not things," and decisions are made by committees rather than individuals. Liberal human relationists therefore seek to develop groups that are tolerant of a wide range of personalities and permit a large degree of nonconformity³⁴—groups which can cooperate on common problems without first demanding proof of kinship or loyalty oaths.

The Nature of Conflict. Another criticism, closely related to the conformity issue, is that many human relationists are too preoccupied with the building of group cohesion to reduce conflict and encourage harmony and cooperation.³⁵ Although it is true that some human relationists equate cooperation with goodness and consider conflict bad and, therefore, conclude that cohesive (harmonious) groups are the best,³⁶ others hold the more sensible view that only conflict arising from subconscious, nonrational motives and from failure in communications should or can be eliminated. There are enough real, substantive conflicts that groups must resolve. It is normal and healthy for individuals and groups to be faced with a reasonable amount of tension from time to time. Life without conflict (challenge)—even if possible—would be intolerable.

The human relationists' emphasis upon harmony and nonlogical causes of conflict has led to the accusation that they ignore the economic, political, and ideological causes of conflict. They are charged with showing sloppy sentimentality when rigorous logic and analytical ability are required. It is said that human relationists, in both controlled experiments and

field studies, have neglected the study of power. Sensitive to criticism, human relationists now are including the consideration of power and conflict in their research.³⁷

Group Decision-Making. Human relationists are also criticized for maintaining the superiority of group decision over individual decision. Some critics contend that only individuals can be creative, that group decisions must necessarily be mediocre, that they are time-consuming, and that they are part of the buck-passing, responsibility-shirking trend of the new generation of managers (brought up on group projects in progressive schools). Experimental evidence on the speed and quality of group decisions and brain-storming is conflicting and inconclusive.³⁸

There is of course a danger that groups become so imbued with the goal of cohesion and harmony that they hastily reach an agreement without careful examination of facts, alternatives, or consequences. On the other hand, an increasing number of business decisions must be made in committee. Human relationists state that the curse is not the committee system but the inability of people to conduct themselves in committees so as to reach efficient, high-quality decisions. Human-relations research has yielded many practical suggestions for more effective committee operation.³⁹

Although some day it may be proved that individual decision is superior to group decision, it has been established that decisions made by the group are more acceptable to the membership.⁴⁰ Subordinates resist decisions handed down by superiors simply because they resent authority. People come to understand a problem better if they have a hand in solving it. They become aware of their subconscious feelings about the problem in the course of discussion. People are more apt to carry out a decision they have participated in making. The group tends to enforce the carrying out of the decision. There are instances where the acceptance of a decision (as in production

standards) is more important than the quality of the decision.

The Meaning of Democracy. Human relationists are criticized for their loose use of the term "democracy" and their tendency to equate non-directive, permissive leadership with democracy.⁴¹ Just as there are times when our national government requires firm, directive leadership, so too in industry. While the emotionally-disturbed patient may need and appreciate nondirective guidance, it does not necessarily follow that normal well-adjusted students, offspring, spouses, or employees will respond enthusiastically to the teacher, parent, husband, or supervisor who serves only as a sounding board for thoughts and feelings. Child psychologists have learned that children worry over the abnormal eunuch-like behavior of parents who conform to the text book ideal of understanding parents. It would seem that supervisors under appropriate conditions may accurately communicate feelings of righteous indignation to enforce the intellectual content of their message. When to express true feelings of emotion and when to bide one's time is a human-relations problem, but has nothing to do with democracy. Some human relationists have equated democracy with "leaderless groups" where rank disappears and all are equal, while others have held that democracy pertains to political democracy (intergroup relations) and is not relevant to small groups. A middle ground would be that collective bargaining and grievance procedure, supplemented by decentralized management down to the work-group level, increases the degree of industrial democracy.⁴²

Mysticism. Some human-relations specialists have, in my opinion, a mystical, anti-intellectual bias in their writing that is not supported by research evidence and which detracts from the positive contributions of the movement.⁴³ Just as clinical and Gestalt psychologists stress the total personality and total environment—saying that the whole cannot be understood by

the analysis of component parts—human relationists speak of "the personality of the group" and "the totality of the group situation." Such a view is supported by some experimental evidence, but it does not follow that the group as a mystical body (Herder's romantic *herren-volk*) is of greater value than the individual members. A group may be something more than the sum of its individual members, but this does not detract from the worth of the individual, nor imply that life is meaningful only through complete identity with a group.⁴⁴

Similarly, some human relationists speak of the "wisdom of the group" not in the sense that two heads are better than one, but in the sense that the group, as an entity, is the carrier of a primordial wisdom more trustworthy than the intelligence of individuals.⁴⁵ The wisdom of the group is sometimes compared to the "wisdom" of the human body in healing itself without conscious effort and to the "wisdom of nature" which operates best when not thrown into disequilibrium by the purposeful activity of man.⁴⁶ The group subconscious is held to be the repository of ancestral wisdom.⁴⁷ Some human relationists argue that the "logic of feelings" is greater than the "logic of thought"; that "Seeing is believing, but feelings are the truth."⁴⁸ The implication is that conscious, intellectual analysis is "obsessive" and will not lead to right answers and that the subconscious, nonrational, emotional aspects of man should be sharpened and given free rein for creative thought.⁴⁹

In contrast, then, to early human-relationists who sought an exact science, some human-relationists of today would argue that scientific attempts to understand interpersonal relations must fail because the impartial observer cannot become emotionally involved. The emotionally-involved participant, however, has subconscious understanding that he cannot explain because he is too involved to be an analytical observer. The implication is that the development of conscious-level, intellectual

ability destroys the more primitive, intuitive powers which are actually a more useful means of reaching decisions on interpersonal relations. Although some human relationists seek to eliminate the "hidden agenda" of emotional undercurrents which obstruct task-oriented group activities, others prefer to trust emotional expression, insights, and feelings as the higher level of reality. The study of group behavior necessarily leads to concern with problems of unspoken communications, the main springs of creativity, and suppressed emotions. Human relationists must deal with these problems, and one can, after all, assert that these forces within groups do not lend themselves to scientific analysis without becoming a mystic.

Evangelism. Those human relationists who are closely allied to the mystics see human relations as a revolutionary movement to save Western civilization from impending doom.⁵⁰ The doom theme is an old one, going back to the reaction of the Romantic philosophers to the Industrial Revolution. Durkheim, Mayo, Fromm, and Toynbee further developed the imminent doom thesis. To summarize briefly, the doom thesis holds that modern industrial society is out of tune with the basic needs of human beings. The impersonal, market-oriented economy causes mental illness, creating a market-oriented personality type which, in turn, reinforces both the market orientation and the illness. The tyranny of the impersonal forces of an atomistic free market is more devastating to the individual than the tyranny of the group.

The process through which this occurs is circular: individual freedom leads to competition which in turn leads through rapid technological change to job specialization. Job specialization means the loss of meaningful work—which, because life is no longer meaningful, causes abnormal acquisitiveness of material things. This emphasis on the high standard of living leads ultimately to more

competition. Modern industry and urban living destroy primary groups, create uncertainty as to status, and cause psychological insecurity. Proof of this condition is found in the rise in suicides, divorce, alcoholism, mental illness, functionless families, functionless older people, and juvenile delinquents, and in the decline in worker membership in community organizations.

For some human-relationists, the solution to this state of affairs lies in human-relations metaphysics. It offers a philosophy which will give meaning to life and to work and will end the evils of acquisitiveness and rootlessness by teaching man how to love his fellow man again. This way of life is that of the cohesive social group, which offers love, security, and purposefulness for the individual. Human relations, in this sense, becomes a revolutionary, evangelical sect whose goal is to remake individuals, groups, organizations, and cultures. Those human relationists who reject the emphasis upon harmony, cohesiveness, and belongingness also reject the doom thesis and feel no need to save the world. While not all human relationists have a revolutionary mission to save the world, few of them deny that there appears to be an interrelationship between labor unrest, social disorganization, modern technology, industrial organization and a highly competitive, materialistic market-oriented economy. Human relationists who are concerned with these variables are not necessarily either romanticists or utopians.

Training. Finally, human-relations training is the subject of much criticism. First, it is said that the training cannot be proved to be of value.⁵¹ This is a difficult objection to cope with, for scientific evaluation is hard and the findings are inconclusive. Some studies suggest that human-relations training has no effect or has negative results, and others indicate that human-relations training yields positive results. However, since no one has demanded a scientific evaluation of the effectiveness of lib-

eral-arts or business-administration curricula, it is not reasonable to ask it of the human-relations curriculum.

The second criticism of human-relations training parallels the current attack on progressive education's life-adjustment courses.⁵³ It may be true that the business man's biggest problems both quantitatively and qualitatively are human-relations problems, but somewhere, someone must have some technical competence. It may be true that administrators must be "specialists in the general," get the "big picture," and must "like people," but the details of running the enterprise cannot be left entirely to the engineers, accountants, and lawyers. Instead of skills in group decision-making, which critics call shirking responsibility, it is suggested that skill in individual judgment and self-confidence be taught. Rather than developing listening ability, critics urge that future executives learn how to present ideas effectively. Human-relations training, which necessarily stresses insight, sensitivity, a feeling for the situation, and the premise that "there are no *right* answers," cannot evaluate student performance. It may be that education is not meant to be painless or to be fun, but to be hard, rigorous work. As in progressive education, perhaps there should be a balance between what are called "hard" content-oriented courses and "soft" human-relations training courses.

The third criticism of human-relations training relates to the mystical and revolutionary evangelism of human relations.⁵⁴ It is doubtful whether one should be taught to trust his hunches rather than logical analysis. Individuals and groups may suffer from Calvinistic inhibitions, but it is questionable whether the free reign of feelings in a revival-camp meeting atmosphere is the solution to the problem. When sensitivity becomes sentimentality and self-awareness becomes self-pity, training in human relations is not developing mature individuals. There is a fine line between being

conscious of one's motives and reactions, and being so preoccupied with one's self as to become ineffectively self-conscious. Although the revolutionist stresses belongingness as a virtue to be learned in training laboratories, group therapists consider this to be the adolescent stage in group development in which individuals use the group as an emotional crutch. Instead of encouraging this development, some human relationists work toward "group maturity" in which individuals can preserve "self" while effectively participating in groups from which they can withdraw to be emotionally independent.⁵⁴

Finally, some critics, raising the question of whether human relations can be or should be taught, argue that the seriously maladjusted need clinical treatment which should not be financed by industry or schools of business administration. For those who would benefit from human-relations training, on the other hand, it is claimed that the course is too brief, that personality change cannot be brought about by a one-semester course or a two-week seminar. To put it briefly, good interpersonal relations are a way of life in which a person must be reared.⁵⁵

In response to these criticisms, human relationists reply that training programs are for normal individuals and that there is experimental evidence that the training, admittedly brief, does improve both on-the-job and marital relations. Human-relations training supplements content-oriented courses and is not intended to replace the established curriculum. Industry and the professional schools in universities include human-relations training as part of the general training program because it is a valuable part of the overall education of the executive, supervisor, administrator, educator, and social worker. Finally, critics of human-relations training cannot escape the fact that traditional teaching methods are not highly effective. Human relationists argue that teachers of subject matter courses will borrow

human-relations training methods, as is now being done in business conferences and conventions, to improve the learning process.

EVALUATION

Industrial human relations has two main trends that are so interwoven as to cause confusion and controversy. The first is an evangelical, missionary framework of thinking. Essentially, this is a revolutionary view which sees civilization as on the brink of destruction; those who hold this view believe it to be their duty to save the world. Just as scientific management elevated a few techniques of industrial engineering into a movement aimed at revolutionizing the structure of society, some human relationists have raised the study of primary groups to the level of a utopian ideology. In the scientific-management movement the perfection of tools of measurement yielded natural laws of cooperation which, in turn, led to a technocrat's utopia. Human-relations cultists seek cooperation through therapy, "revolution by infiltration" into industry and government via human-relations training courses, and believe that the "withering away" of the state will follow from the decentralizing of authority to leaderless groups.

The cult of human relations, however, is not as modest as psychiatry, whose practitioners admit that the answers to philosophical questions regarding the meaning of life cannot be found in psychiatry. Beyond the treatment of emotional difficulties, the evangelists among the human relationists offer a philosophy of life in mystical union with the group. Where the psychiatrist expects to find a degree of self-sufficiency, tension, conflict, and loneliness in the life of a normal individual, the cultist sees these as defects which create mental illness. From the psychiatric point of view, human-relations training by the cultists may hurt rather than help emotional cripples. It may even be that enthusiastic participation in human-relations alumni clubs is a sign of im-

maturity rather than a vision of a new era of peace and love—an indication of retarded development rather than of rebirth.

The mystical human relationists draw anti-intellectual conclusions from their interpretation of psychoanalysis. They emphasize the subconscious, the nonrational, the instinctive, and distrust conscious, rational, analytical processes. Moreover, it is the *collective* subconscious that is the source of wisdom, superior decisions, truth, and reality. Science is too objective to discover the truth. Reality is an emotional experience that can be felt but cannot be understood. According to the mystics, rational compartmentalization of knowledge obscures the truth whereas the Gestalt of the group unconscious will discover truth.

The second major trend in the movement puts human relations in its proper perspective. This is the application to industry of concepts and research in the social sciences. In this respect, human relations has made a contribution in providing a general framework for the analysis of industrial relations.

Human relations research has provided us with valuable information about informal groups, organization, leadership, and training. Along with time-and-motion study, this body of information is being applied to the problems of the business enterprise. Human relations has made a contribution by increasing our awareness of the emotional, nonrational, subconscious aspects of interpersonal relations. These unconscious forces are not limited to those in mental institutions but constitute problems with which all must deal. Furthermore, human-relations studies have made clear that these difficulties are not entirely the consequences of the birth trauma or of rejecting mothers. The nature of the business organization, its leadership, or groups within industry may themselves cause emotional disturbances which are harmful to business as well as to individuals. Finally, the human-relations approach raises questions concerning our indus-

trial, urban culture as a cause of individual, group, and organizational maladjustments. Although mental health is not an exclusive measure of the worth of a culture, it is a fruitful one worthy of further exploration. Followers of this trend within the human-relations movement, instead of wallowing in the non-logical, would raise subconscious motivation to the conscious level so that irrational conflicts could be eliminated.

As indicated in the first section of this paper, the approach of early human relationists had a management-oriented flavor which was opposed by those labor-relations specialists who saw in collective bargaining a democratic industrial government that both preserved the dignity of the individual and made large-scale business enterprise workable in a political democracy. These same specialists attack as incompatible with individual freedom, collective bargaining, and democracy, that part of the present-day human-relations movement which stresses harmony through conformity.

The other major trend in human relations, however, complements the concept of mature, democratic industrial government. Research evidence supporting greater participation in

decision-making by all employees, and favoring a less authoritarian organizational structure and style of supervision, is encouraging to those with a democratic philosophy.

Human relations in industry brings into sharper focus but does not give final answers to questions of industrial democracy, power relationships, conformity, and efficiency. Unless human-relations research comes up with new experiments and fresh ideas there will be no general theory of human relations. As indicated elsewhere in this paper there are gaps in the general theory, which is suggestive rather than conclusive. Current research supports ideas already developed and as such tends to be repetitious. Unless major developments take place, human relations, like scientific management, may be reaching a dead end. In brief, there is one trend in the human-relations movement that, in its extreme form, is a mystical revolutionary cult and may be harmful to both individuals and organizations. Another offers a better understanding of groups and organizations, and, although its framework appears to be limited, it supports viewpoints found in the concept of mature industrial government.

NOTES

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² Elton Mayo, *The Social Problems of an Industrial Civilization* (Boston: Harvard University Graduate School of Business Administration, 1945) and *The Human Problems of an Industrial Civilization* (Boston: Harvard University Graduate School of Business Administration, 1946); F. J. Roethlisberger, *Manage-*

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³ See William H. Knowles, *Personnel Management: A Human Relations Approach* (New York: American Book Company, 1955), pp. 74-118 for a review of this debate.

⁴ Chris Argyris, *The Present State of Research in Human Relations in Industry* (New Haven: Yale Labor and Management Center, 1954); Mason Haire, "Group Dynamics in the Industrial Situation," in *Industrial Conflict*, Arthur Kornhauser, et al. (eds.) (New York: McGraw-Hill, 1954), pp. 373-385; William F. Whyte, "Human Relations Theory—A Progress Report," *Harvard Business Review*, Vol. XXXIV (September-October, 1956); Harold L. Wilensky, "Human Relations in the Workplace, An Appraisal of Some Recent Research," in *Research in Industrial Human Relations*, Conrad M. Arensberg, et al. (eds.), (New York: Harper, 1957), pp. 25-54.

⁵ See Knowles (note 3), pp. 41-43, 61-62, 84, 102-103.

⁶ William F. Whyte, *Money and Motivation* (New York: Harper, 1955).

⁷ Abraham J. Siegel, "The Economic Environment in Human Relations Research," in *Research in Industrial Human Relations*, Conrad M. Arensberg, et al., (eds.), (see note 4), pp. 86-99.

⁸ For review of authoritarian management philosophy see Knowles (note 3), pp. 149-165.

⁹ See articles by Wilbert Moore, pp. 119-130; William F. Whyte, pp. 171-181; Mason Haire, pp. 182-191; and Solomon Barkin, pp. 192-213, all in *Research in Industrial Human Relations*, Arensberg et al., (eds.), (see note 4).

¹⁰ William F. Whyte, (see note 4).

¹¹ S. I. Hayakawa, "Success and Failure in Communications," *Proceedings, Sixth Western Regional Conference, American Society of Training Directors*, San Francisco (October, 1957); Wendell Johnson, "The Fateful Process of Mr. A. Talking to Mr. B.," *Harvard Business Review*, XXXI, 1 (1953), 49-56.

¹² See Barabara Wootton, *Testament of the Social Sciences* (New York: Norton, 1950); Erich Fromm, *Man For Himself* (New York: Rinehart, 1947). For remarks relating the problem of mental health and culture directly to human relations in industry see Michael Fogarty, *Personality and Group Relations in Industry* (London: Longmans Green, 1956), pp. 23-40.

¹³ S. H. Foulkes and E. J. Anthony, *Group Psychotherapy* (London: Pelican, 1957), pp. 40-47; Erich Fromm, *The Sane Society* (New York: Rinehart, 1955); Frederick Herzberg, et al., *Job Attitudes: Review of Research and Opinion* (Pittsburgh, Psychological Service of Pittsburgh, 1957), pp. 19, 229-252; C. G. Jung, *Modern Man in Search of a Soul* (New York: Harcourt Brace, 1933), p. 61; Patrick Mullahy (ed.), *A Study of Interpersonal Relations* (New York: Hermitage Press, 1949), especially articles by Ernest Beaglehole, Harry Stack Sullivan, Talcott Parsons, and Harold Lasswell.

¹⁴ T. W. Adorno, et al., *The Authoritarian Personality* (New York: Harper, 1950); J. A. C. Brown, *The Social Psychology of Industry* (London: Penquin, 1954), pp. 219-276.

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¹⁶ Herzberg, et al., (see note 13), pp. 17-20.

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²⁰ Thomas Gordon, *Group-Centered Leadership* (Boston: Houghton Mifflin Co., 1955); Carroll L. Shartle, *Executive Performance and Leadership* (New York: Prentice-Hall, 1956); for documentation of research on leadership see Donald A. Laird and Eleanor C. Laird, *The New Psychology for Leadership* (New York: McGraw-Hill, 1956), pp. 22-60, 65-78, 87-94, 113-120, and 175-178.

²¹ Brown (see note 14), pp. 186-211; Maier (see note 1), pp. 7-26, 46-49, 93-205; Sherif and Sherif (see note 17), pp. 204-218; Rudolf M. Wittenberg, *The Art of Group Discipline, A Mental Hygiene Approach to Leadership* (New York: Association Press, 1951), pp. 37-100. For documentation of research on democratic group decision-making see Laird and Laird (note 20), pp. 16-17, 83-86, 94-99, 103-108.

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²³ Brown (see note 14), pp. 41-68; Ginsberg and Reilly (see note 22), pp. 18-39; David Riesman, Nathan Glazer, and Reuel Denny, *The Lonely Crowd* (Garden City: Doubleday Anchor, 1956), pp. 32-49, 151-166; Sherif and Sherif (see note 17), pp. 136-156, 159-188; Wittenberg (see note 21), pp. 108-111.

²⁴ Kenneth D. Benne and Bozidar Muntyah, *Human Relations in Curriculum Change* (New York: Dryden Press, 1951); Gordon (see note 20), pp. 13-45; Laird and Laird (see note 20), pp. 13-15; Maier (see note 1), especially pp. 3-17; Ashley Montagu, *Education and Human Relations* (New York: Grove Press, 1958); Sherif and Sherif (see note 17), pp. 219-229; Thelen (see note 17), pp. 34-91; Irving R. Weschler, Robert Tannenbaum, and John H. Zenger, *Yardsticks for Human Relations Training* (Los Angeles: Institute of Industrial Relations, 1957), pp. 5-11.

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²⁷ Carl R. Rogers, *Client-Centered Therapy* (Boston: Houghton-Mifflin Co., 1951); Davis (see note 1), pp. 383-402; Maier (see note 1), pp. 38-43; Norman R. F. Maier, Allen R. Solem, and Ayesha A. Maier, *Supervisory and Executive Development, A Manual for Role Playing* (New York: Wiley, 1957).

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²⁵ See Brown (note 14), pp. 83-95, 276-307.

²⁴ I am indebted to Daniel Bell for this observation.

²³ H. J. Eysenck, *Uses and Abuses of Psychology* (London: Pelican, 1953), pp. 1-18, 221-241; Foulkes and Anthony (see note 13), p. 196; Calvin S. Hall and Gardner Lindzey, *Theories of Personality* (New York: Wiley, 1957), pp. 1-6, 24-25; Homans (see note 17), pp. 15-46.

²² William H. Whyte, *The Organization Man* (Garden City: Doubleday Anchor, 1957), pp. 3-154.

²¹ For development of the anti-conformity criticism see Clark Kerr and Lloyd Fisher, "Plant Sociology: The Elite and the Aborigines," in *Common Frontiers of the Social Sciences*, Mirra Komarovsky (ed.), (Glencoe, Illinois: Free Press, 1957), pp. 281-309; Riesman, et al. (see note 23), pp. 34-48, 161-163, 299-314; David Riesman, *Individualism Reconsidered* (Garden City: Doubleday Anchor, 1956), pp. 12-27. For a particularly bitter attack on anti-individualistic tendencies in human relations see Hans Illing, "C. G. Jung on Present Trends in Group Psychotherapy," *Human Relations*, X, 1 (1957), 77-83.

²⁰ For viewpoints on human relations which respect the individual see Davis (note 1), pp. 57-67; Foulkes and Anthony (note 13), pp. 213-218; and Sherif and Sherif (note 17), p. 38.

¹⁹ For criticism of the human-relations emphasis upon harmony, see Kerr and Fisher (note 33), pp. 300-302; Malcolm McNair, "What Price Human Relations," *Harvard Business Review*, XXXV, 2 (1957), 20-25; William Gomberg, "The Use of Psychology in Industry," *Management Science*, III, 4 (1957), 358-370; Whyte (note 32), pp. 25-35.

¹⁸ For a more balanced view see Sherif and Sherif (note 17), pp. 146-154; Stagner (note 15), pp. 449-514.

¹⁷ For criticisms of group decision-making see Whyte (note 32), pp. 63-65.

¹⁶ For a discussion of research on decision-making see Maier (note 1), pp. 254-377; Warren H. Schmidt and Paul C. Buchanan, *Techniques that Produce Teamwork* (New London: Croft, 1954).

¹⁵ For practical suggestions for effective committee operation see Thelen (note 17), pp. 3-33, 284-297; Schmidt and Buchanan (note 38), especially pp. 26-38.

¹⁴ Davis (see note 1), pp. 270-307; Thelen (see note 17), pp. 245-275.

¹³ Whyte (see note 32), pp. 25-35, 59-61. For an overall discussion of human relations and democracy see F. K. Berrien and Wendell H. Bash, *Human Relations: Comments and Cases* (New York: Harper, 1957), pp. 214-253.

¹² For a balanced view on industrial democracy see Fred H. Blum, *Toward a Democratic Work Process* (New York: Harper, 1953); Maier (note 1), pp. 204-205, 254-301. For a view rejecting democracy in small groups, see Homans (note 17), pp. 419-422, 432-433, 464-467.

¹¹ For a review of the mystical approach which is applicable to mysticism in human relations, see Bertrand Russell, *Mysticism and Logic* (Garden City: Doubleday Anchor, 1957), pp. 1-31. The term "mysticism" is used in this article in the sense used by Russell: 1. The belief in a way of wisdom, sudden, penetrating, coercive, which is contrasted with the slow and fallible study by science. 2. The belief in unity and the refusal to admit opposition or division anywhere. 3. The belief that evil is illusory and all reality is good. Mystics among the human relationists do not seem to follow Russell's other characteristic of mysticism: denial of the reality of time.

¹⁰ For criticisms of mysticism in human relations see David Stafford-Clark, *Psychiatry Today* (London: Penguin, 1953), pp. 134-136, 150-154; Eysenck (note 31), pp. 226-227, 233; Foulkes and Anthony (note 13), pp. 39, 196, 235-255; Clara Thompson, "Anti-Intellectualism and the Individual," *Journal of Social Issues*, XI, 3 (1955), 48-50; Rollo May, "A Psychological Approach to Anti-Intellectualism," *Journal of Social Issues*, XI, 3 (1955), 41-47; Wittenberg (note 21), pp. 5-10.

⁹ Abraham Zaleznik, *Worker Satisfaction and Development* (Boston: Harvard University Graduate School of Business Administration, 1956), pp. 130-136.

⁸ Homans (see note 17), p. 87.

⁷ On the concept of the collective subconscious which has influenced some human relationists, see C. G. Jung, *Two Essays on Analytical Psychology* (New York: Meridian, 1956).

⁶ Maier (see note 1), preface and p. 17.

⁵ Berrien and Bash (see note 41), pp. 54-69.

⁴ For development of the doom thesis and social neurosis see Berrien and Bash (note 41), pp. 3-21, 254-273; Foulkes and Anthony (note 13), pp. 41-44, 253-254; Homans (note 17), pp. 271, 313-368, 454-468; Jung (note 13), pp. 196-244; Karl Menninger, *Man Against Himself* (New York: Harcourt Brace, 1938); Montagu (see note 24), pp. 26-27, 84-85, 90-96, 122-146; J. L. Moreno, *Sociometry, Experimental Method and the Science of Society* (New York: Beacon House, 1951).

³ For discussion of the evaluation of human-relations training see Kenneth Andrews, "Is Management Training Effective?" Part I, *Harvard Business Review*, XXXV (1957), No. 1, pp. 85-94 and No. 2, pp.

63-72; Gordon (note 20), pp. 273-302; Floyd C. Mann, "Studying and Creating: A Means to Understanding Social Organization," in *Research in Industrial Human Relations* (note 4), pp. 146-157; Weschler, et al., (see note 24).

³² For points of view on "life adjustment" versus "narrow specialism," see Robert Browne, "Winds of Doctrine," *Adult Education*, III, 2 (1958); McNair (note 28), pp. 25-28; Montagu (note 24), pp. 9-12; Riesman, *Lonely Crowd* (see note 23), pp. 162, 275-336.

³³ For criticisms of the anti-intellectual element in human relations training see Theodore Brumeld, "Anti-Intellectualism in Education," *Journal of Social Issues*, II, 3 (1955), 36-40; Riesman (see note 23), 224-236; Whyte (see note 32), pp. 56, 86-110.

³⁴ Foulkes and Anthony (see note 13), pp. 205-210, 227, 242-249.

³⁵ Gomberg (see note 35), pp. 362-363; McNair (see note 28), pp. 18, 30.

I see a new discipline of human relations emerging—a discipline which will ultimately integrate the social or behavioral sciences. It will bring to bear the theories, methods, and techniques of all the social sciences upon the study of interpersonal phenomena, including relations between persons and between groups, wherever these relations occur. This discipline will be a field of study focusing upon definable phenomena and yielding a body of knowledge relevant to human behavior. It will have its applied branch which will use knowledge emerging from basic research in the solution of particular problems for specified purposes. Associated with the latter branch will be researchers, who will use existing knowledge to provide a systematic basis for later implementation, and practitioners, who will diagnose situations and take action which they deem appropriate in terms of objectives to be achieved.

I would not hazard a guess as to how long it might take for this new discipline to emerge full-blown, but the current trend in this direction is apparent and the ultimate outcome, in my judgment, inevitable.

Robert Tannenbaum,

"An Evaluative Focus on Human Relations"